

# **college** **AND UNIVERSITY** **business**

**MAY 1957**

***Why Students Fail***

***Trends in College Architecture***

***Is Your Public Relations Paying Off?***

***Selecting the Right Paint***

***Preventive Maintenance Reduces Cost***

CLASSROOM BUILDING, TEMPLE UNIVERSITY, PHILADELPHIA (page 48)





**FIRST IN TRAYS...  
FIRST IN PRAISE!**

**Bolta**®

**America's leading source of trays**



**BOLTABILT**

**THE ALL-TIME FAVORITE**

60% of the plastic trays used in America are BOLTABILT trays. Smooth-finish plastic with exceptional durability cuts replacement costs.



**BOLTA CORK TRAYS**

**NON-SKID, CORK-TOP TRAYS**

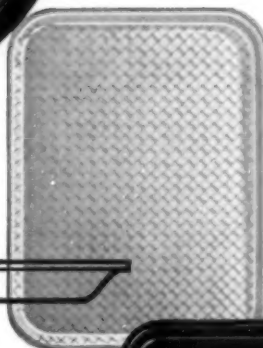
Cuts down breakage and noise. Durable non-skid surface grips dishes and glassware... makes serving safer and easier.



**BOLTA TEMPO-TRAYS\***

**WORLD'S FIRST  
DESIGNER TRAYS!**

BOLTA quality with a dash of fashion! Created by world's leading designers, they are available in 34 beautiful color-and-pattern combinations!



**BOLTABEST**

**SUPER-  
STRENGTH  
IN COLOR**

Exclusive 17-layer lamination adds years of colorful use. Attractive linen, pearl and silhouette patterns and colors for every decor.



Here are trays that enhance every meal,  
every decor . . . trays that combine finest  
construction qualities with lasting beauty and wear!  
BOLTA TRAYS are impervious to cigarette  
burns and food acids . . . withstand abuse and normal dishwashing  
temperatures. Lightweight and non-clattering, they  
will not warp, split or stain . . . wipe clean  
to a gleaming surface!



**BOLTALITE**

**THE ROYALTY OF TRAYS**

Toughest trays on the market! Made of rugged hard rubber, with handsome mahogany finish. Won't clatter when stacked or dropped.



**THE GENERAL TIRE & RUBBER COMPANY**

**BOLTA PRODUCTS DIVISION  
LAWRENCE, MASSACHUSETTS**

\*Designed for the STIMULUS collection of Schiffer Prints.

Visit Our Booth D-55, National Restaurant Show, Navy Pier, Chicago • Specify Boltalex for booths and furniture, Bolta Wall for interiors



THE VAST MAJORITY OF THE NATION'S FINE BUILDINGS ARE SLOAN EQUIPPED



JOHN HANS GRAHAM & ASSOCIATES  
*architects*  
KLUCKHUHN, COBB & McDAVID  
*mechanical engineers*  
TAYLOR CONSTRUCTION COMPANY  
*general contractor*  
CLARENCE COSTON, INC.  
*plumbing contractor*  
COPLAN PIPE & SUPPLY COMPANY  
*plumbing wholesaler*

## Palm Beach Towers

# -AN ADVENTURE IN ELEGANCE

• On the lush tropical site of Florida's former Royal Poinciana, for 40 years famed as the great socialite hotel, now stands the recently opened multi-million dollar resort apartment hotel—Palm Beach Towers. Its six stories contain 273 luxurious apartments having 1449 magnificently furnished and air-conditioned rooms. The suites are spacious, airy and delightfully livable. Balconies and loggias provide privacy yet

allow utmost enjoyment of the splendid views and matchless climate. The two building wings curve toward the shore, encircling a giant pool and gay cabanas. The featured center of social activities is the magnificent Poinciana Room, for cocktails, dining and dancing. As are thousands of other fine buildings, the new Palm Beach Towers is completely equipped with SLOAN *Flush VALVES*—most favored of all.



### **SLOAN** *Flush* **VALVES**

FAMOUS FOR EFFICIENCY, DURABILITY, ECONOMY

— SLOAN VALVE COMPANY • CHICAGO • ILLINOIS —

Another achievement in efficiency, endurance and economy is the SLOAN *Act-O-Matic* SHOWER HEAD, which is automatically self-cleaning each time it is used! No clogging. No dripping. Architects specify, and Wholesalers and Master Plumbers recommend the *Act-O-Matic*—the better shower head for better bathing.

*Write for completely descriptive folder*





designed for people  
who must work in a  
controlled atmosphere



**SPECIAL UNIVERSITY TYPE**

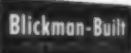
A volume produced low cost unit specially designed for university, hospital and industrial use. Literature available upon request.

## BLICKMAN VACUUM DRY BOX

Designed by Blickman engineers for safe handling of radio-isotopes, reactor fuel containing Plutonium or U233 and other hazardous substances. Fabricated of stainless steel plate. With air-lock, it can be sealed to create a vacuum... then flushed to provide a controlled atmosphere. The vacuum dry box can be pumped to a 50 micron level. Leakage is less than 200 microns per

hour. Dimensions overall are 34" long x 26" high x 24" wide at base. Air-lock measures 18" x 12".

Sturdy, all-welded construction assures long life...rounded corners provide easy cleaning and decontamination. Send for Technical Bulletin A-2 or describe your specific problem. Write S. Blickman, Inc., 2805 Gregory Ave., Weehawken, N. J.



Look for this symbol of quality

**BLICKMAN**  
**LABORATORY EQUIPMENT**

COLLEGE and UNIVERSITY BUSINESS





# college AND UNIVERSITY business

EDITORIAL DIRECTOR  
ROBERT M. CUNNINGHAM Jr.

EDITOR  
HAROLD W. HERMAN

ASSISTANT EDITORS  
MILDRED WHITCOMB  
BEULAH H. TORSET

PUBLISHING DIRECTOR  
J. W. CANNON Jr.

DIRECTOR MARKET RESEARCH  
RUSSELL T. SANFORD

PRODUCTION MANAGER  
LEO KEDROK

PUBLISHING AND  
EDITORIAL OFFICES  
919 N. MICHIGAN AVE.  
CHICAGO 11, ILL.  
SU perior 7-6402

EASTERN OFFICE  
119 West 40th St.  
NEW YORK 18, N.Y.  
OXford 5-3000

CLEVELAND OFFICE  
(Adv. Sales only)  
19030 WESTLAKE ROAD  
CLEVELAND 16, OHIO  
ED ison 1-4816

WESTERN STATES  
REPRESENTATIVE  
(Adv. Sales only)  
McDONALD THOMPSON  
LOS ANGELES, SAN FRANCISCO  
SEATTLE, HOUSTON, DENVER

Published monthly by The Nation's Schools Division, The Modern Hospital Publishing Co., Inc., 919 North Michigan, Chicago 11, Ill., U.S.A. Raymond P. Sloan, chairman, board of directors; Howard Barringer, president; Robert F. Marshall, executive vice president; Stanley R. Clague, vice president and secretary; H. Judd Payne, vice president; John P. McDermott, treasurer. Copyright © 1957, by The Nation's Schools Division, The Modern Hospital Publishing Co., Inc. Single copies, 50 cents. Member, Magazine Publishers' Association. Acceptance under Section 34.64, P.L.&R., authorized. Published on the tenth of the month of the date of issue. Change of address should be sent 30 days in advance of publication date.

## MAY 1957

Organized Look at Needs of Education Beyond High School.....	25
DAVID D. HENRY	
Why Students Fail.....	27
T. H. MATTHEWS	
Jobs for Older Workers.....	31
L. H. GLANDER	
There's "Punch" in Our Payroll Procedures.....	33
C. B. POWELL	
Four Ways of Figuring Whether Public Relations Is Paying Off.....	34
VICTOR J. DANILOV	
Family Housing Facilities.....	36
VERNON KRETSCHMER	
Are State Scholarships Answer to Increasing Demand for Higher Education?.....	38
T. E. BLACKWELL	
Trends in College Architecture.....	40
R. B. O'CONNOR	
Comfortable Classrooms All Year Through.....	45
VICTOR H. KUSCH	
Picking the Right Paint.....	48
DON E. LAUGHMAN	
Auditors Aid Administration—Accounting for Tickets.....	53
A. E. MARIEN	
Preventive Maintenance Reduces Cost.....	54
T. M. REHDER	

AMONG THE AUTHORS.....	4
QUESTIONS AND ANSWERS.....	6
LOOKING FORWARD.....	22
LETTERS TO THE EDITOR.....	60
NEWS OF THE MONTH.....	62
NAMES IN THE NEWS.....	74
DIRECTORY OF ASSOCIATIONS.....	78
CLASSIFIED ADVERTISING.....	80
WHAT'S NEW.....	83



## EDITORIAL BOARD

### GENERAL ADMINISTRATION

RAYMOND KETTLER.....*University of California*  
GEORGE BAUGHMAN.....*New York University*  
JOHN DALE RUSSELL.....*State of New Mexico*

### FINANCE AND ACCOUNTING

CLARENCE SCHEPS.....*Tulane University*  
ERNEST CONRAD.....*University of Washington*  
G. C. HENRICKSEN.....*Duke University*

### PERSONNEL AND OFFICE MANAGEMENT

W. O. NICHOLLS.....*The American University*  
CHARLES HOFF.....*University of Omaha*  
JAMES N. EWART.....*Calif. Inst. of Tech.*

### PURCHASING AND STORES

JAMES RITTERSKAMP.....*Washington University*  
M. T. TRACHT.....*Illinois Institute of Technology*  
J. S. REAVES.....*University of Florida*

### DESIGN AND CONSTRUCTION

WINSTON CLOSE.....*University of Minnesota*  
PHILIP KEENE.....*State College of Washington*

### PLANT OPERATION AND MAINTENANCE

W. P. WETZEL.....*Temple University*  
A. F. GALLISTEL.....*University of Wisconsin*  
CARL M. F. PETERSON.....*Mass. Inst. of Tech.*

### FEEDING AND HOUSING

ELSIE DE PONTE.....*DePauw University*  
JOSEPH P. NYE.....*Columbia University*  
ERNA LEHAN.....*San Francisco State*

### AUXILIARY ENTERPRISES AND RELATED ACTIVITIES

T. N. MCCLURE.....*University of Rhode Island*  
H. W. JORDAN.....*Indiana University*  
GLEN TURNER.....*Colorado College of Education*

### STUDENT ENTERPRISES AND SERVICES

EDGAR WHITING.....*Cornell University*  
EARL HARPER.....*State University of Iowa*  
FREDERICK STECKER.....*Ohio State University*

### LEGAL PROBLEMS

T. E. BLACKWELL.....*Washington University*

## EDITORIAL CONSULTANTS

J. B. CLARKE.....*Howard University*  
EDWARD CRATSLEY.....*Swarthmore College*  
J. ROBERT JENKINS.....*Ga. Inst. of Tech.*  
JOHN MECK.....*Dartmouth College*  
ELIZABETH J. CARBON.....*Cooper Union*  
GORDON FRESE.....*Stephens College*  
GERALD HENDERSON.....*Vanderbilt University*  
ELMER JAGOW.....*Knox College*  
LOUIS FITCH.....*Wittenberg College*  
BROTHER JAMES M. KENNY.....*Fordham Univ.*

## Among the Authors



L. H. Glander

Mich. During time off work, he indulges in his hobby of repairing old clocks.



Victor J. Danilov

papers, and for a three-year period was on the staff of the *Chicago Daily News*. He has written extensively for magazines in his own field and in education and has collaborated with technical personnel in preparing research papers. Mr. Danilov is the author of a book on public affairs reporting, published in 1955.



V. L. Kretschmer

in the navy. He was president of the Association of College Unions for 1948-49 and has been a regional director for the association for many years. He says he rarely has time for recreation, but when the opportunity presents itself, he turns to golf and bowling.



Albert E. Marien

he was on the faculty of St. Louis University, teaching courses in marketing and merchandising. For a four-year period, from 1943 to 1947, he headed the business administration department of Berry College, Mount Berry, Ga. Mr. Marien has written extensively for accounting magazines, and also has authored a manual for a college sales course under his personal copyright. When he has the time away from office figuring, he likes to cut figures on ice. Besides skating his special tastes are writing and music.



# Keep your floor-maintenance men happy...



## with *Job-Fitted* EQUIPMENT!

Choose from the **COMPLETE Finnell Line**  
More than a score of models and sizes  
permits selection of the equipment  
that's exactly right for your job!



However much a maintenance man may want to do a good job, and at the same time show savings in labor costs, he's *stymied* if the machine is too small, or too large, or is otherwise unsuited to the job. Different floors and areas call for different care and equipment. That's why *Finnell makes more than a score of floor-maintenance machines*. From this complete line, it is possible to choose equipment that is correct in size as well as model... that provides the maximum brush coverage consistent with the area and arrangement of the floors.

Finnell offers *Conventional Polishing-Scrubbing Machines* in both concentrated and divided-weight types, each in a full range of sizes... a *Dry-Scrubber*, with self-sharpening brushes, for cleaning grease-caked floors... *Combination Scrubber-Vac Machines* for small, vast, and intermediate operations, including self-powered as well as electric models... *Mop Trucks*... a *Wet and Dry Vacuum Cleaner*, in baked enamel or stainless steel, with 1½ hp By-Pass Motor. In addition, Finnell offers a full line of fast-acting *Cleaners* for machine-scrubbing... *Sealers and Waxes* of every requisite type... *Steel-Wool Pads* and other accessories — *everything for floor care!*

In keeping with the Finnell policy of rendering an individualized service, Finnell maintains a nation-wide staff of floor specialists and engineers. There's a Finnell man near you to help solve your particular floor-maintenance problems... to train your operators in the proper use of Finnell *Job-Fitted Equipment and Supplies*... and to make periodic check-ups. For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 4405 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

### FINNELL SYSTEM, INC.

*Originators of Power Scrubbing and Polishing Machines*



BRANCHES  
IN ALL  
PRINCIPAL  
CITIES



# QUESTIONS AND ANSWERS

## Rising Enrollments

**Question:** What is the responsibility of the privately endowed college in helping to meet the rising volume of young people desiring a college education?—H.M., Ga.

**ANSWER:** It is most difficult to determine whose responsibility it is to provide for the education of two or three times the present number of young people now attending colleges and universities. I am convinced that this number of people will be attending colleges and universities within less than 20 years. Certainly we all have a moral responsibility to youth. Some may argue that society's responsibility ends with the secondary school. On the other hand, the American people, for their own self-preservation, may have a responsibility to meet world competition in preparing young people not only in the physical sciences but in the social sciences and human relations.

Traditionally, elementary and secondary education has been the responsibility of the state. It might be argued that each local community has this responsibility. Certainly, the state has a responsibility. Objectively, the nation, because of the sum total national welfare, has a responsibility. Certainly by the very nature of their establishment and the statements of their purposes, private and church affiliated colleges have a responsibility.

It could well be assumed that the best solution to the problem is an extension of the present pattern. If this were to follow, privately endowed and church affiliated colleges and universities would assume almost one-half of the total responsibility. Realistically, however, this does not seem likely to happen.

It would be my opinion that the colleges and universities would follow much the same pattern that the secondary schools have followed. As secondary education has expanded and now encompasses virtually all youth of secondary school age, the state and local communities have assumed by

far the major responsibility. It is my opinion that this trend will continue into the college and university level.

—RONALD B. THOMPSON, registrar, Ohio State University.

## Fringe Benefits

**Question:** As far as faculty is concerned, what is the relative importance of various types of fringe benefits, such as insurance, leave of absence provisions, and retirement income?—L.R., Vt.

**ANSWER No. 1:** So far as I know there has been no survey which establishes beyond doubt the relative importance that is assigned to the several elements of benefits and working conditions on the part of the faculty. However, for what it is worth and expressed simply as a personal opinion, I would rank them in the following order:

1. *Personal Security.* Under this heading come such things as an adequate retirement program, group insurance (including life, hospital and medical), and a progressive policy of payments for disability.

2. *Job Security.* Primarily concerned with tenure and the possibility of promotion.

3. *Pay.* Following very closely thereafter but, in my opinion, in third place is the question of pay, particularly pay based on internal equity whether or not it is possible to maintain complete

equity with outside employers, both academic and otherwise. Here the necessity is for a type of administrative attitude that assures consideration of all the values of a good faculty member and recognition based on such evaluation.

4. *Pleasant and Satisfactory Working Conditions.* Examples might include (a) policy to provide for attendance at appropriate conferences and conventions; (b) reasonable work load; (c) sufficient nonacademic staff to make it possible for the faculty member to do his own specialized work free from clerical, custodial or other similar details; (d) at least an open mind as to the value of occasional compensation for outside consulting and writing; (e) a good spirit of participation and communication between the administration and faculty.

I suggest that the questioner read Lloyd S. Woodburne's excellent work, "Faculty Personnel Policies in Higher Education" (Harper & Bros. 1950).—DONALD E. DICKASON, executive secretary, College and University Personnel Association.

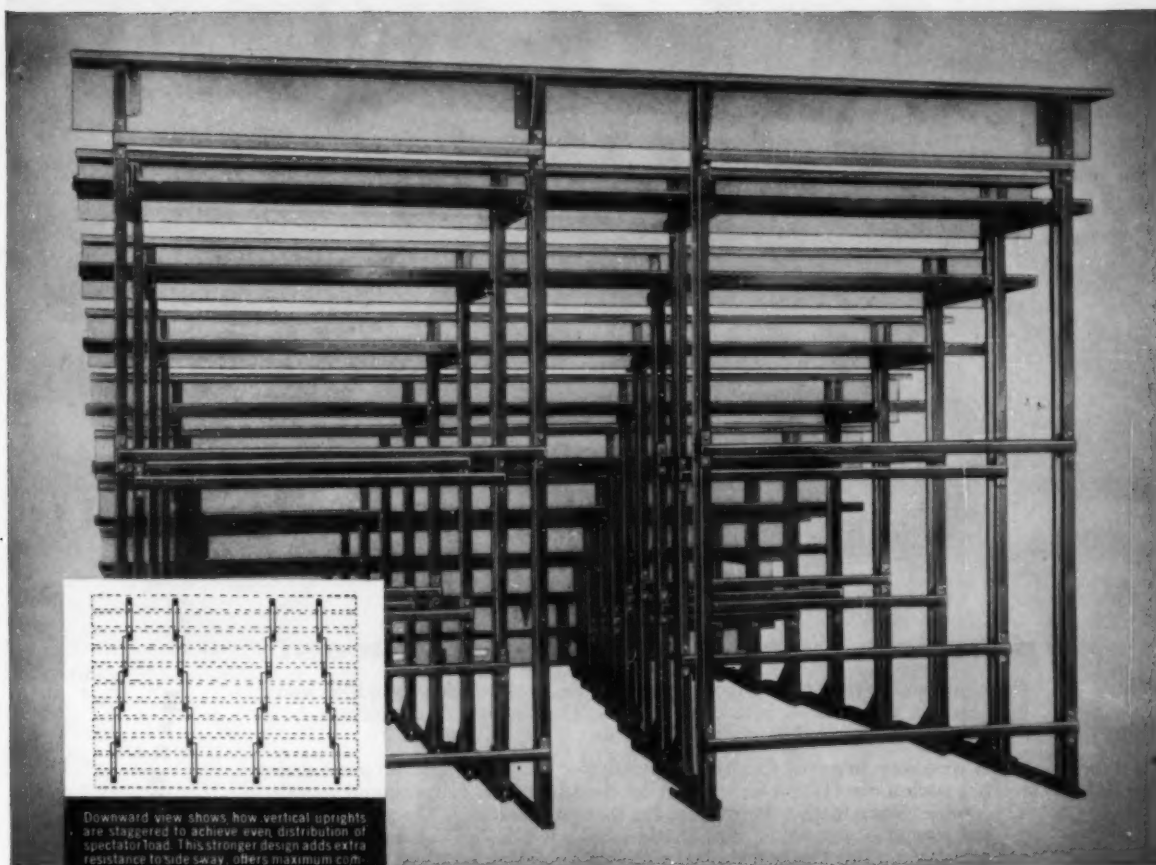
**ANSWER No. 2:** Fringe benefits are becoming increasingly important to both faculty and those responsible for faculty budgets. Improved retirement and life insurance plans are of value to faculty members and certainly add to the budget. Schools will no doubt find it both necessary and desirable to start paying for at least a part of hospital, surgical and major medical insurance.

Undoubtedly the fringe benefits that don't directly affect the budget—such as leaves of absence, pensions, time to carry out pet research projects, time to write, to do consulting work, sabbatical leaves and the like — will continue to have more importance to the faculty members than do the strictly monetary fringe benefits.—

J. N. EWART, director, office of non-academic personnel, California Institute of Technology.

**If you have a question on business or departmental administration that you would like to have answered, send your query to COLLEGE and UNIVERSITY BUSINESS, 919 North Michigan Avenue, Chicago 11, Ill. Questions will be forwarded to leaders in appropriate college and university fields for authoritative replies. Answers will be published in forthcoming issues. No answers will be handled through correspondence.**





Downward view shows how vertical uprights are staggered to achieve even distribution of spectator load. This stronger design adds extra resistance to side sway, offers maximum compactness when seats are closed.

## When it comes to **GYM SEAT SAFETY** **MEDART'S** skyscraper construction proves best

The illustration above shows how the steel superstructure of Medart Telescopic Seats is engineered, not only for capacity load, but strong enough to support up to 400 pounds per linear foot per row without noticeable deflection or side sway.

Each row, 16' long, rests on 4 twin angle welded vertical uprights, tied together with channel bracing. The entire load is placed directly on the floor, not on walls or casters. Like a modern skyscraper, the steel understructure is completely self-supporting, open or closed. Strength of the assembly is not dependent upon wood members, oblique bracing, springs or wall supports. Medart seats, risers and

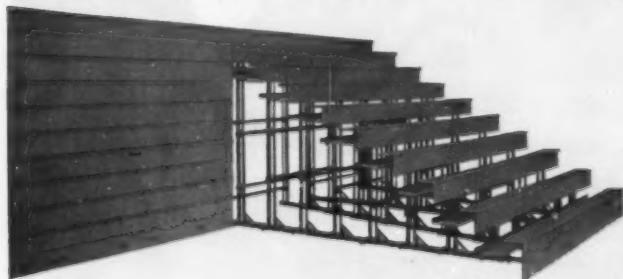
footboards *provide additional rigidity* and resistance to side sway.

No other retracting type of seat can exceed the dependable safety of Medart design.

Medart Seats are roomier. Available with 22" or 24" row spacing and 10½" or 11½" row rise, extra toe and heel room offer more comfort and full visibility than any other seats. Exclusive "Floating Motion" and "Dual Align" assure non-binding straight line trackage—make Medart easiest of all gym seats to open and close.

*Before* specifying, compare the superior features and value of Medart Seats. Get all the facts...

*Write For Complete Catalog*



# MEDART

TELESCOPIC GYM SEATS

***SPECIFY the best, then INSIST on it!***



FRED MEDART PRODUCTS INC. • 3536 DE KALB • ST. LOUIS 18, MISSOURI





## Someone here compared fixtures!

You can see it in the soft, even lighting, in the absence of shadows and glare, in the modern, attractive fixtures, themselves. Yes, someone compared . . . and then chose Day-Brite.

A wise way to select fixtures, especially for schools, where proper lighting has such a direct, traceable effect on concentration, learning and morale. A wise choice in Day-Brite, too, for these fixtures not only provide the comfortable over-all illumination and good design you see in the photograph but easier installation, lower operating cost and trouble-free maintenance as well.

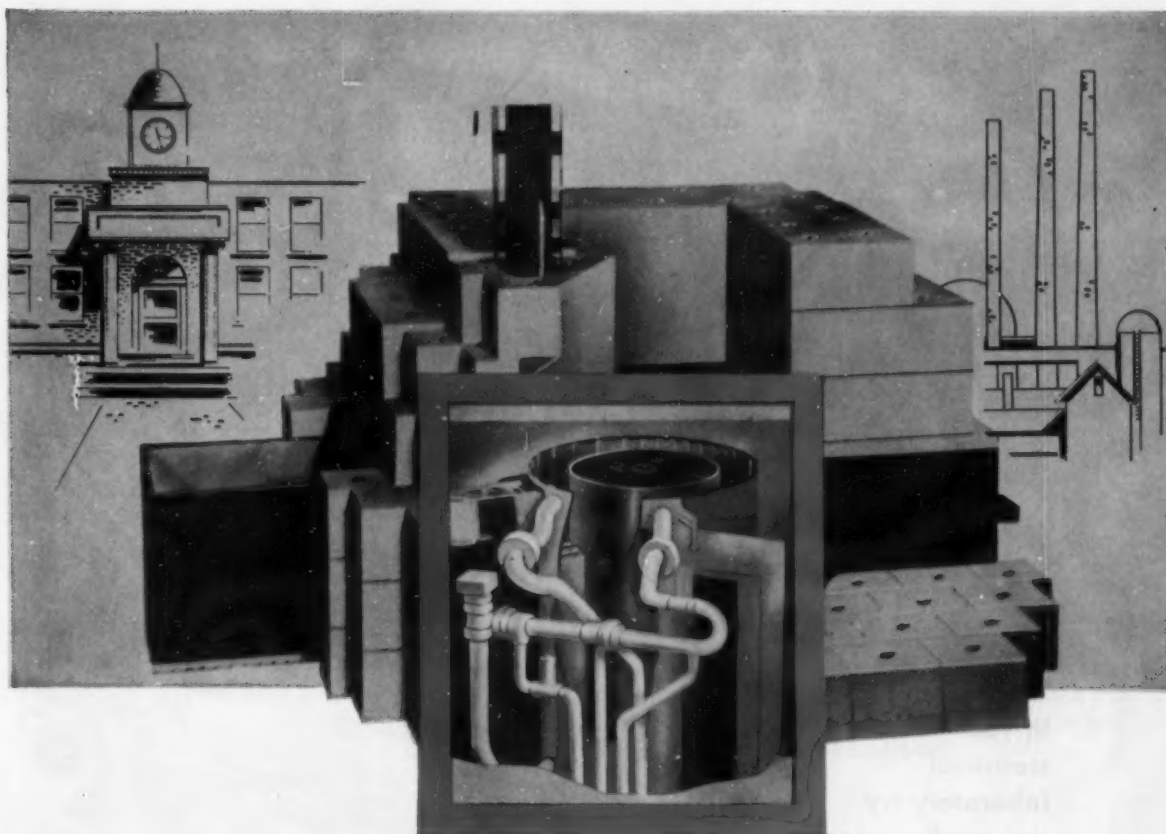
Won't you compare all fixtures . . . feature by feature? Your Day-Brite representative will gladly arrange a table-top demonstration. Call him today. He's listed in the Yellow Pages. *Day-Brite Lighting, Inc.*, 5452 Bulwer Ave., St. Louis 7, Mo. *Day-Brite Lighting, Inc.*, of California, 530 Martin Ave., Santa Clara, Calif.

**NATION'S LARGEST MANUFACTURER  
OF COMMERCIAL AND INDUSTRIAL  
LIGHTING EQUIPMENT**

Classroom in Richland Township High School, Allegheny County, Pa.,  
lighted with Day-Brite LUVEX ® fixtures 71131







## THE HEART OF DAYSTROM'S REACTOR TRAINING CENTER

THE D. A. R. T. PROGRAM IS A POSITIVE APPROACH TOWARD MAKING "ATOMS FOR PEACE" . . . A REALITY

The D. A. R. T. (Daystrom Argonaut for Research and Training) Program initiated by Daystrom, is our practical answer to your requirements.

This two phase program, consisting of reactor construction and training, has, as its nucleus, a 10 KW Argonaut reactor\*. Inherently safe, this reactor was specifically designed to meet the needs of institutions and industrial organizations.

The D. A. R. T. Reactor offers many advantages, a few of which are listed below:

- Ease of installation • Inherent safety
- Unusual flexibility
- Low investment and maintenance costs

Practical training, at our center is available to any interested and qualified individual.

Courses include:

- Reactor Use and Application • Reactor Operator Training
- Control and Instrument Maintenance Training
- High School Science Course (science teacher training)
- Technical Seminar for Management Personnel

### REACTOR SPECIFICATIONS:

TYPE	HETEROGENEOUS
MAX. RATING:	10 KW
MAX. FLUX:	$10^{11}$ NEUTRONS/SQ. CENTIMETER/SEC.
FUEL:	BORAX TYPE FUEL ELEMENTS
CRITICAL MASS:	APPROX. 3-3/4 KG.
MODERATOR:	H <sub>2</sub> O
REFLECTOR:	GRAPHITE

Write today for FREE illustrated informative brochure "The D. A. R. T. Program". For technical and engineering data on the D. A. R. T. Reactor or other types of research reactors, contact Mr. A. C. Stanton, Director, Domestic Sales or Mr. W. K. Kirchholtes, Director, Foreign Sales.



\*This reactor is the Daystrom concept of the much publicized Argonaut, designed by personnel of the Argonne National Laboratories for specific use as a training reactor.





**In your  
statistical  
laboratory try  
this totally automatic  
calculator . . .**

*The new Monroe-Matic Duplex  
actually adds as it multiplies,  
adds as it divides, stores and  
"remembers" intermediate results  
applying to the final answer.*



## **speed STUDENTS' figure-work**

The revolutionary *single* keyboard calculator speeds and simplifies all figure-work, with automatic squaring, automatic zeros and decimals. Push a key . . . automation takes over, puts the answer into the dials in split-second time.

Students in Agriculture, Business Administra-

tion, Chemistry, Engineering and other departments conserve hours of study time with the help of these newest, fastest Monroe-Matic Calculators.

Why settle for less than Monroe-Matic, the calculators with automation, the preferred investment, assurance against obsolescence for years.

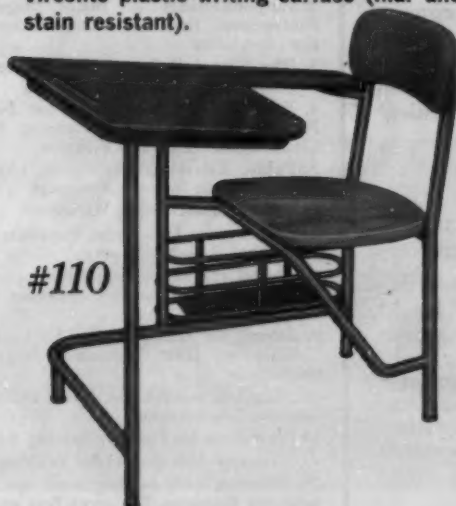
See the MAN from **MONROE**  
for CALCULATING • ADDING • ACCOUNTING MACHINES



## **VIRCO** *the hit of the show*

MANUFACTURING CORPORATION

Virco #110 Study-Top Chair Desk is a favorite of both junior and senior high schools. Posture-perfect engineering with Vircolite plastic writing surface (mar and stain resistant).



#110



#145

Virco's new #145 folding tablet-arm chair is ideal for use in classrooms or lecture halls or wherever a working or writing surface is needed. It's comfortable and practical. Frame of tubular steel construction with mar and stain resistant Vircolite plastic tablet-arm.

## *Virco #277 new improved chair desk*



Versatility is the word for this completely new Virco unit. Attractive in design, yet sturdily constructed, its many exclusive Virco features make it a best seller. The chair construction is of tubular steel framework supporting a contoured plywood seat and back and a large plastic covered working surface. This unit is the newest design in permanent book compartments. Available in 13", 15" and 17" seat heights. The desk top section is maintenance-free Vircolite mar and stain resistant "tops of quality."

**VIRCO**  
MANUFACTURING CORPORATION

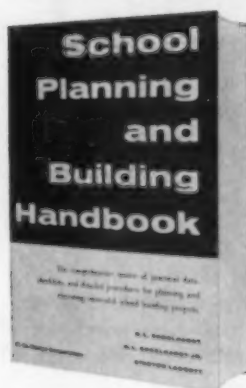
P. O. Box 44246 Station "H"—Los Angeles 44, Calif. . . . Manufacturing plants in Los Angeles, Calif., and Conway, Arkansas  
*Makers of America's Most Complete Line of "Specified" School Furniture*



# NOW READY—AUTHORITATIVE, PRACTICAL HELP AT EVERY STEP OF THE BUILDING PROGRAM

## SCHOOL PLANNING AND BUILDING HANDBOOK

by N. L. Engelhardt, N. L. Engelhardt Jr., and Stanton Leggett  
members of the firm Engelhardt, Engelhardt, Leggett and Cornell,  
Educational Consultants.



in collaboration with over 85 leading authorities, including:

School Administrators and Officials  
Architects, Educators, Engineers  
Site Planners and Landscape Architects  
Educational and Architectural Editors  
... and other school specialists

Here for the first time is the only practical handbook dealing with every phase of planning and executing school building programs. This one book is the best source of information needed every day by administrators, members of boards of education, building committees, business managers, superintendents of schools, and everyone else concerned with the building program.

### Specifically, this new book will:

1. Analyze, define and assign the exact duties and responsibilities of every party involved in your building program.
2. Set up detailed checklists and procedures for every aspect and every step of your program. These procedures and checklists are so minute in their coverage that they may be followed as a daily guide to prevent the omission of any needed item in any completed work or building.
3. Provide complete checklists and specimen contracts covering every contractual relationship entered into in planning and executing the program.
4. Render advice and make specific recommendations regarding legal services, accounting and budget procedures and controls, insurance coverage, maintenance, inspection of work, incidental and extra cost items, public relations, purchasing, financing, and other specialized problems of your program.

SCHOOL PLANNING AND BUILDING HANDBOOK does not deal in generalities—it is the most specific, practical work ever published in this field. It is a priceless reservoir of vital facts which will be a constant aid to you in your building program.

**PRODUCED IN COLLABORATION WITH OVER 85 LEADING AUTHORITIES**  
**626 PAGES, 6 x 9" SIZE**

**THOUSANDS OF ITEMS — ACCURATE, EASY TO FIND**  
**DETAILED INDEX FOR READY REFERENCE**  
**COMPLETE WITH TABLES, DIAGRAMS AND CHARTS**  
**ORGANIZED INTO 40 CHAPTERS**

**INCLUDES 53 COMPLETELY DETAILED CHECKLISTS & SCHEDULES**

**\$12.75**

**MAIL TODAY FOR PROMPT DELIVERY**

**DODGE BOOKS, F. W. Dodge Corporation, 119 W. 40th St., N.Y. 18, N.Y.**



Send me—copies of *School Planning and Building Handbook* @ \$12.75 each. After ten days free examination, I shall either remit the price plus a few cents postage, or return the book with no obligation.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

- ☐ My check is enclosed. You pay postage, same return privilege.  
☐ Send free catalog.

### 40 IMPORTANT CHAPTERS

(headings abridged here)

1. Building Schools for a Nation: Responsibilities of Board of Education, Specialized Personnel, Comprehensive Planning
2. Responsibilities of Board, Superintendent, Professional Experts: Administrative Organization, Specialists
3. The School Building Survey: Trends, Scope, Building in a Changing Community
4. Educational Specifications for New School Buildings: Requirements, Planning the Primary Classroom, Developing a Program
5. Public Relations: Importance, Literature, Organizing for an Intensive Campaign
6. Local Administrative Variations
7. Planning for Equipment, Furniture: Trends in Equipment, Responsibilities
8. Budget and Accounting for Programs: Capital Budget of the Community, Necessary Accounting Records
9. School Site Selection: Trend toward One-story Construction, How Community Progress Affects the Schools
10. Acquisition of Sites: Board Policy, Eminent Domain, Condemnation
11. Standards for Site Engineering Surveys
12. Contract with the School Building Architect
13. Contract with the Engineer: Specialized Engineering Problems, Engineer's Fees and Contracts
14. Problems of Land Use and Landscaping: Changing Concepts, Estimating the Cost
15. Sanitary and Storm Drainage: Appraisal of Problem
16. Standards for Architects' and Engineers' Preliminary Drawings
17. Preliminary Planning in a Large City
18. Scale Models and Perspective Renderings
19. Final Preliminary Specifications
20. Standards for Subsurface Exploration and Test Borings: Purpose, Field Operation, Application of Results
21. Statement of Preliminary Estimates of Cost
22. Standards for Final Working Drawings
23. The Volume of Final Specifications
24. Final Specifications of Materials and Workmanship: Writing the Final Specifications, Assurance of Superior Results
25. General Conditions of Contract: Sample Contracts
26. Detail Drawings and Shop Drawings
27. Cost Estimates Based on Final Plans and Specifications: Design-stage Estimating, Comparison of Project Costs
28. Incidental and Extra Costs
29. Problems Associated with Bidding
30. Contracts of Construction
31. Supervision of Construction: Architect's overall Responsibility, Clerk-of-the-Works, Advance Appointment of the Building Custodian
32. Insurance Coverage for School Construction
33. Surety Bonds on School Construction
34. Unit Costs and Their Interpretation
35. Timetable for School Building Projects: Sources of Delays, Adjusting Schedules
36. The Measure of School Building Design
37. Publicizing School Building Projects
38. Legal Services: Needs, Checklists of Possible Legal Problems
39. Financing: Pay-as-you-go Plan, Selling School Bonds
40. Naming the School, Cornerstone Laying, and Dedication: Ceremonies, Errors and Pitfalls to be Avoided



*Found wherever the finest  
films are created...*

**Mitchell**

**the world's most  
famous 16mm  
professional camera**

on the campus the Mitchell 16mm camera... is filming the finest, theatre-quality films. And, with good reason — because Mitchell's internationally-famous cameras operate smoothly, positively. Their ease of control makes possible films which are consistently sharper, clearer, steadier.

The Mitchell 16mm, used by Colleges and Universities, has the same outstanding professional features found in the Mitchell 35mm — features which have made Mitchell cameras standard equipment in the motion picture industry throughout the world.

The cost of a Mitchell 16mm camera is moderate. Its superior photographic capabilities and perfect control make possible year-after-year savings by reducing "re-shooting" costs to the absolute minimum.

The Mitchell 16mm is now available for immediate shipment... write for complete information.



**among the users  
of Mitchell cameras:**

**in education**

Bob Jones University  
Brigham Young University  
Georgia Inst. of Technology  
Intermountain Indian School  
Moody Institute of Science  
University of California  
University of Mississippi  
University of So. California  
University of Washington

**in major motion  
picture studios**

Columbia Pictures Corp.  
Metro-Goldwyn-Mayer Studios  
Paramount Pictures Corp.  
Republic Productions, Inc.  
R. K. O. Radio Pictures, Inc.  
Universal-International Pictures  
Warner Brothers, Inc.

**in tv, business,  
and religion**

Alexander Films  
Calvin Company  
Caravel Films  
Coronet Films  
Desi-Lu Productions  
General Electric Corp.  
George Colburn Laboratories  
Sam Handy Organization  
Jerry Fairbanks, Inc.  
National Maritime Union  
Jed H. Ray Films  
Winding Pictures

**in government and  
armed forces**

National Institute of Health  
National Film Board of Canada  
U. S. Air Force  
U. S. Army  
U. S. Dept. of Commerce  
U. S. Navy

lack of space permits us  
to list only a few of the  
many users of  
Mitchell cameras.

**Mitchell Camera CORPORATION**

Dept. C 666 West Harvard Street • Glendale 4, Calif. • Cable Address: "MITCAMCO"

85% of the professional motion pictures shown throughout the world are filmed with a Mitchell

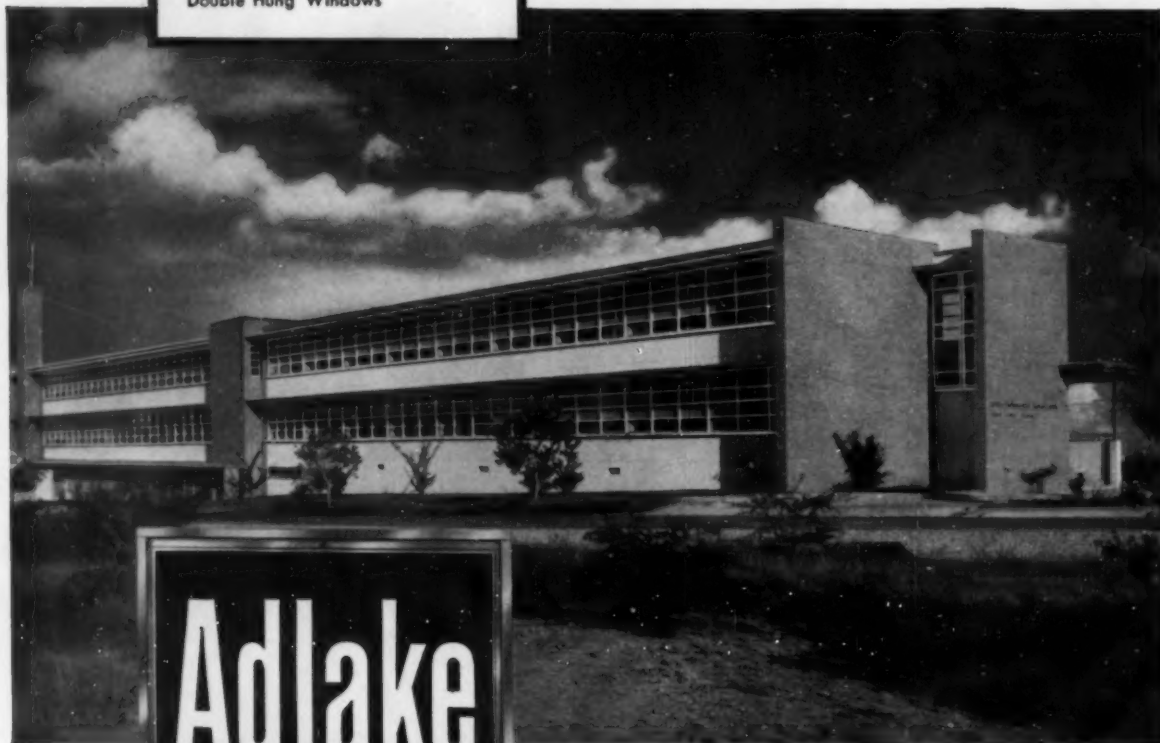


**BUILDING**—Longfellow Junior High School, San Antonio, Texas

**ARCHITECT**—Phelps, Dewees, & Simmons

**CONTRACTOR**—J. C. Worchester

**TYPE OF WINDOW**—Adlake Double Hung Windows



# Adlake

**America's Finest  
Aluminum  
Windows**

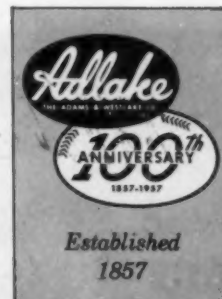
## ...chosen again!

Only Adlake gives these 6 basic advantages:

- No warp or rot
- Minimum air infiltration
- No painting or maintenance
- Finger tip control
- No rattle, stick or swell
- Guaranteed non-metallic weather stripping

Also, Double-Hung Windows With Patented Serrated Guides

The **Adams & Westlake** Company  
NEW YORK ELKHART, INDIANA CHICAGO





# A Modern Electric Duplicator at a Moderate Price!...

Now Heyer offers push-button  
duplicating at little more than the  
price of some hand-operated machines



**Heyer** AUTOMATIC *Mark II*  
**CONQUEROR**  
SPIRIT DUPLICATOR

**\$299.50**  
Plus Tax

Heyer has broken the price barrier with the new Mark II Conqueror automatic electric spirit duplicator. Every school duplicating job—bulletins, class outlines, etc.—can be produced much more easily on the new Model 76 Mark II Conqueror, at the rate of 110 clear, crisp copies per minute in 1 to 5 colors... at a fraction of a cent per copy. Its constant speed produces better and more uniform copies; it frees the operator so that the copies can be observed; and most important... there's no effort on the operator's part, for this new Conqueror runs without watching, and even turns off automatically! You can pay much more if you wish, but the Model 76 offers all this... at a price that can't be matched.

Engineering improvements on the Model 76 Mark II Conqueror include a brand-new Feed Drive Mechanism which works only in a forward motion... eliminates the lurch found in old-fashioned reciprocal drives. It has new High Precision Clutches and Nylon Gears that are quiet and need no lubrication, plus an 11" and 14" Cylinder Stop. The completely redesigned Motor Drive gives smoother operation, while the conveniently positioned Motor Bar permits effortless fingertip starting. Operating instructions are permanently printed on the Model 76, so anyone can operate it in a jiffy. Feature for feature... this Mark II Conqueror is the biggest value in spirit duplicators today!



## MODEL 70 *Mark II* CONQUEROR

For those schools whose budget requires a quality duplicator at the lowest possible price... the hand-operated Model 70 Mark II Conqueror is the perfect

buy. It has been completely redesigned too, and now features a new Feed Release Button as well as Paper Stackers, previously found only on the Model 76 automatic electric duplicator. The Model 70 Mark II Conqueror hand-operated duplicator prints up to 110 copies per minute of anything typed, written **\$195.00** or drawn on the master... in 1 to 5 colors at once. **Plus Tax**

### The HEYER Corporation

1851 S. Kostner Ave., Chicago 23, Ill.

Please send FREE 16 page booklet on Heyer Mark II Conqueror Duplicators containing useful information on spirit duplicating.



NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

SCHOOL \_\_\_\_\_

POSITION \_\_\_\_\_

SEE THE CONQUERORS AT ALL THE MAJOR SCHOOL CONVENTIONS





# Paint

most likely to succeed



It could be a first paint job in a brand new building. It could be a repaint job in an existing building. It could be a paint job that has to stand up under heat, humidity or tough corrosive conditions. It doesn't matter.

*The paint most likely to succeed . . . the paint that will do the best job at the lowest overall cost . . . is Barreled Sunlight ENGINEERED PAINT.*

## Let us explain the reasons

Barreled Sunlight ENGINEERED PAINTS are not like ordinary residential-type paints. They are *heavy duty maintenance paints* that are truly engineered to solve problems close to your purse.

They are "on-the-wall" engineered to give you more yardage, better hiding and lower cost per square foot. They are laboratory and plant engineered to look better and perform better. And they are "service" engineered to stand up under conditions that make less specialized paints fold up and peel away.

Maintenance engineers in charge of large industrial, institutional and commercial buildings . . . men who have dug down deep into the engineering side of painting . . . will tell you that, regardless of the problems involved, the paint most likely to succeed is Barreled Sunlight ENGINEERED PAINT.

## PAINT ENGINEERING SERVICE READY TO HELP YOU

Your Barreled Sunlight Paint Engineer is well qualified by training and experience to help you with any painting problem. He can show you . . . *right on your own wall* . . . how you can get a better paint job at lower "on-the-wall" cost. For a free Engineered Paint and Color Survey of your building, just write today to Barreled Sunlight Paint Co., 35-E Dudley St., Providence 1, Rhode Island.



## Barreled Sunlight®

Engineered

# Paints

For a Better Looking,  
Longer Lasting Paint Job  
At Lower Cost





# Brunswick

## CONVERTS CLASSROOMS INTO LEARNING AND LIVING ROOMS

Education, today, is a strong *dynamic* force working with the *whole* personality of a child. He *lives* his education by *doing* things in a warm, homelike, *inviting* classroom. He is surrounded by imaginative materials and furniture to bring out the best that's in him.

Today's fluid education demands the adaptability that *only Brunswick* furniture offers. Brunswick, backed by 114 years of experience and intensive research, led the way toward comfortable, mobile, flexible and functional school furniture. It stacks, groups and nests wherever possible . . . the furniture and cabinets are truly alive with color . . . it's all designed, engineered and constructed by fine craftsmen. Brunswick is a related *family* of units that mix or match according to the needs of the moment in a wide range of sizes from the elementary to the college level —possible *only* with Brunswick—the *most complete line* in the school furniture field.







chair desk



armchair



study top combination



fiberless  
stacking chair



stacking  
chair



all-purpose  
chair



tablet arm  
chair



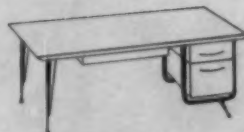
book box combination



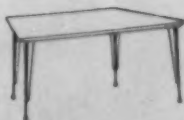
stacking desk



book box desk



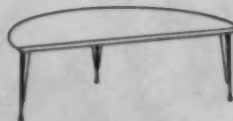
teacher's desk



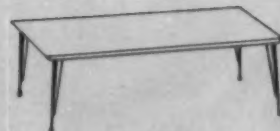
trapezoidal table



round table



half-round table

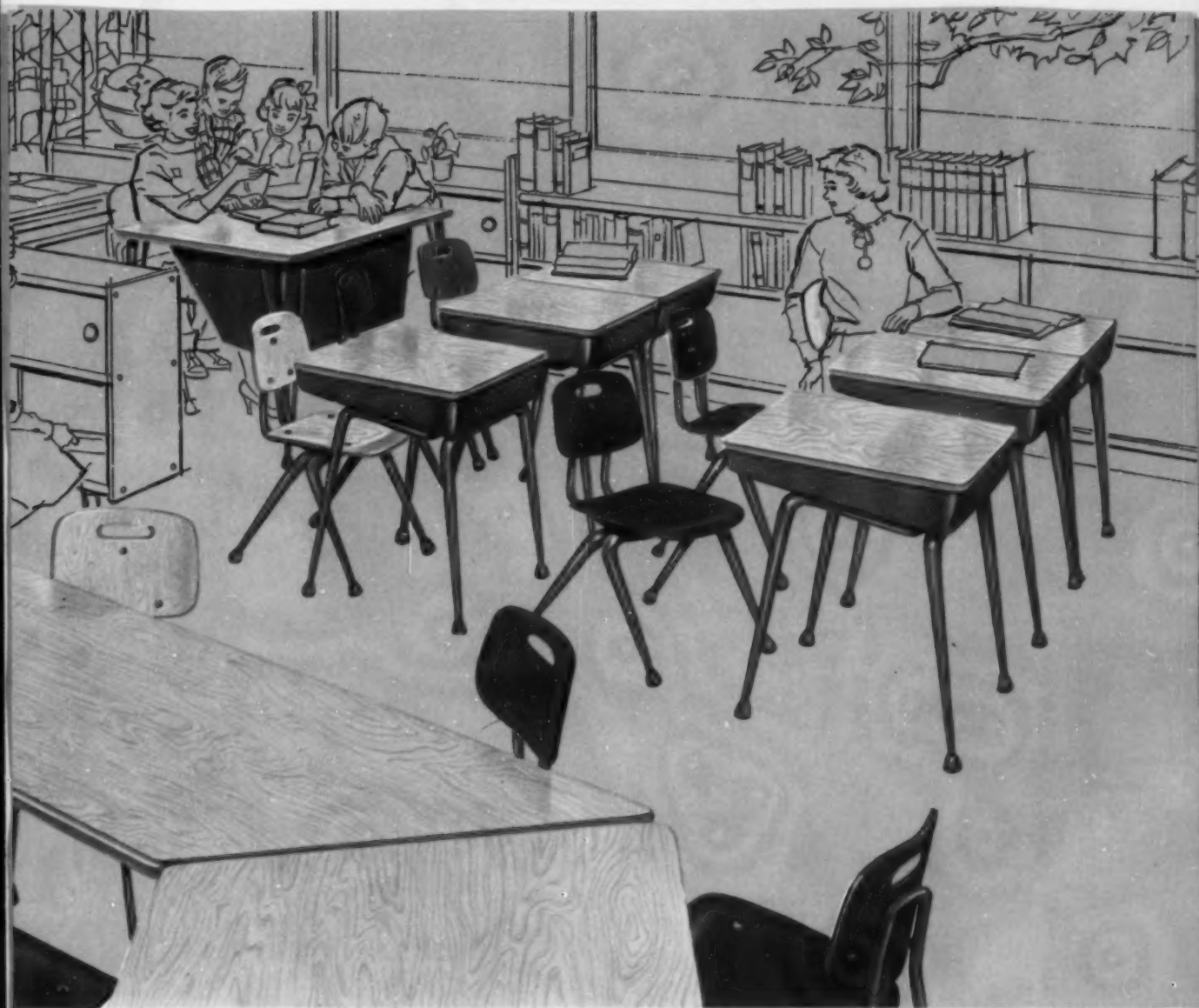


rectangular table

*Brunswick*

sc





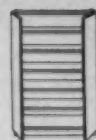
## SCHOOL FURNITURE

*the one line  
that continues to  
set the pace!*

Brunswick set new standards in comfortable, movable, colorful furniture . . . and *continues* to be the hallmark of modern classroom furniture. It is scientifically designed and really comfortable . . . yet is built to withstand 20 years of the roughest wear. It is unburdened by in-the-way, unsightly cross-bracing . . . yet is unbelievably strong and durable, remarkably flexible. It is light and color-bright . . . is so easy to keep clean. The *family* look with all metal parts Sage gray, all wood hard northern White Maple . . . with special Maple-grained plastic work surfaces. The chairs, in both Maple and fiberglass, are radiant with color.



# Brunswick FLEXIBLE CABINETS



teacher's  
storage cabinet

Dynamic education is a reality . . . with Brunswick movable cabinets that flex with every need of the classroom. A far cry from expensive, fixed, custom-constructed storage units, Brunswick cabinets move *where* you want them, *when* you want them . . . serve as new teaching aids, as extra work surfaces, room dividers, project areas, wall cabinets, changeable storage areas. Sturdy enough to stand the roughest wear.

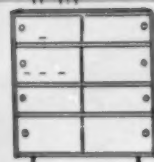
Designed with interchangeable parts so you can take out dividers, add shelves, or change heights to meet the ever-changing functions of a classroom!



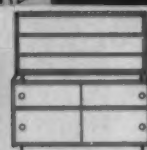
NETS

the first and only cabinet line  
to completely integrate with  
modern teaching methods!

typical cabinets...



four tier cabinet



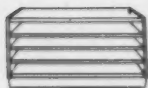
bookshelf



one tier cabinet



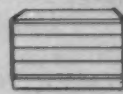
student's wardrobe



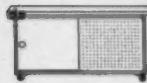
paper storage cabinet



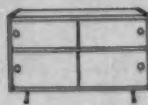
double height general storage cabinet



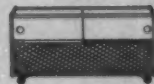
paper drawer cabinet



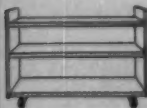
craftwork bench



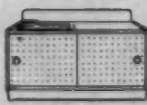
two tier cabinet



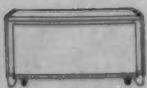
audio cabinet



book truck



cabinet sink



toy cart and table shell



teacher's wardrobe-storage cabinet



general storage cabinet



**FLEXIBLE, MOVABLE**

***Brunswick***

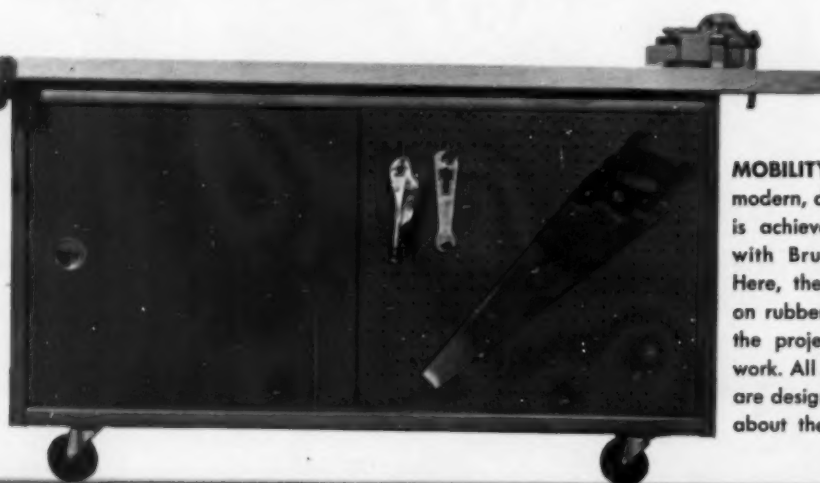
**CABINETS!**

Brunswick cabinets are the only cabinets made with interchangeable parts so that you can take out dividers, add shelves, doors, or change heights to meet the ever-changing functions of a classroom.

Top quality all the way through . . . standardized, factory-built parts, precision turned hardware, sturdy structural parts,

plastic covered work surfaces, precision engineering, and strict quality control . . . inspected and tested to meet rigid standards of perfection.

So imaginative! Brunswick cabinets lend themselves to a hundred uses through the classroom. Classrooms come alive with a new meaning!



**MOBILITY**, the keystone of modern, dynamic education, is achieved silently, easily with Brunswick cabinets. Here, the craftwork bench, on rubber casters, rolls into the project area to go to work. All Brunswick cabinets are designed to move freely about the room.



**ROOM DIVIDERS.** Brunswick cabinets are ideal for dividing the classroom into semi-private group project areas, student-teacher consultation, play or rest areas with privacy controlled by number and heights of cabinets used.

**ATTRACTIVE STORAGE.** Anything that requires storage can be kept in Brunswick cabinets — neat, clean, orderly and easily accessible. The color is fun to live with . . . soft gray highlighted with coral, blue and yellow.



**WALL CABINETS.** Store books and materials handily overhead. Excellent for display purposes. Particularly effective where floor space is at a premium. Vivid door colors add a refreshing decorator touch to the classroom.

**WORK SURFACES.** Ideal for art, crafts, laboratory, other classroom tasks. Ink, clay and paint-resistant as well as resistant to most acids, the plastic cabinet top surface always retains its luster and color . . . is easy to keep clean.





## COLORFUL, FUNCTIONAL FURNITURE!

A new dimension in school furniture—a new idea of color and flexibility in the classroom. Brunswick furniture is easily moved around the room for an ever-interesting environment, fits tight together to create big project work space, angles off into horseshoe shape for group discussion, lines up row-on-row for movies or formal learning arrangement.

The tables, desks and combination units *group* together to form any-size work tables. Alternate sizes of tables *nest* one under the other for space-saving storage. Chairs and desks *stack* high and neat to clear an area for group participation. Simple, classic design belies their tremendous strength.

Now, furniture no longer limits the use of the classroom . . . Brunswick furniture *enlarges* classroom adaptability, encourages student creativity and imagination.

**FIBERGLASS CHAIRS.** What an array of colors . . . what practical chairs! Fiberglass, a wonderful material that keeps its vibrant color, is a breeze to keep sparkling clean, is lightweight yet remarkably sturdy, is resistant to heat, water, food stains, chemicals.



**GROUPS.** Tables and desks group flush with each other to create large work areas, or discussion tables . . . invite "getting along" during refreshments or reading. Adapts to any activity, takes advantage of proper lighting.

**COMFORTABLE.** Scientifically designed for comfort. The chairs have compound curves to perfectly match the contours of the body. No cross braces or rods . . . chair legs are away from busy feet . . . makes for easy cleaning.



**NESTS.** All tables are apronless so students have maximum leg freedom and so that alternate sizes nest — fitting one under the other — to allow space-saving storage yet keep all tables easily accessible within the classroom.

**MOVABLE.** All Brunswick furniture is movable. The classroom changes character in a minute—becomes a workshop, a rumpus room, a lecture hall, a library, a painter's studio, or the wild frontier as well as a formal classroom.







*Brunswick*

Let us help you.

There is a Brunswick school equipment specialist ready to serve you anywhere across the nation. Brunswick is represented by many leading school dealers from coast to coast assuring you of prompt, informative service for your school.

Please call on us to show you our complete line of classroom furniture and cabinets. Brunswick specialists can offer many services to you in helping you select the proper equipment, making technical room equipment layouts, and furnishing price quotation information.

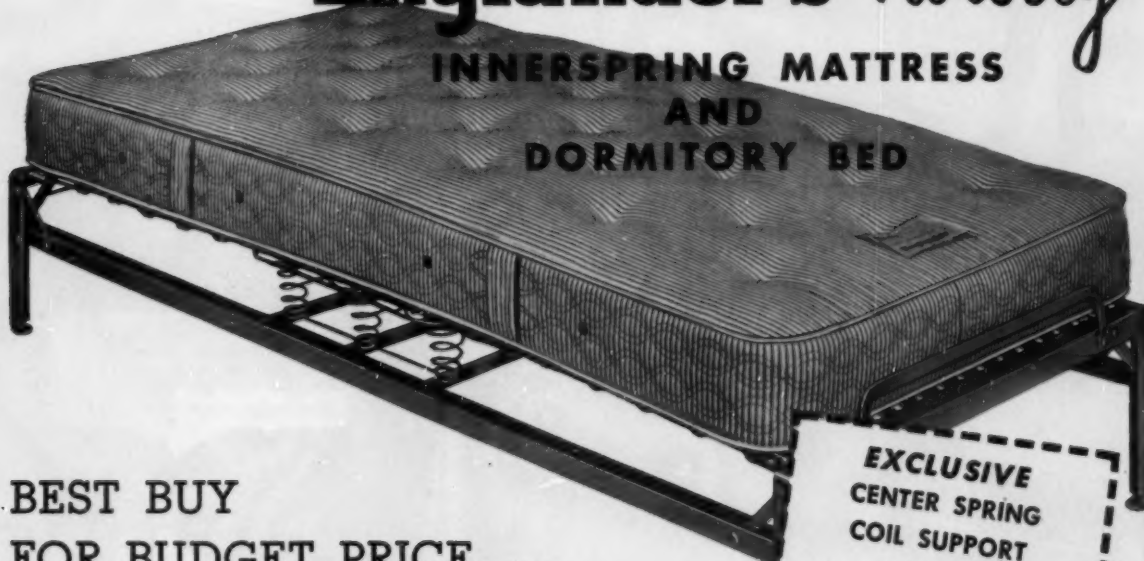


# Campus Favorite

Coast to Coast

## Englander's Varsity

INNERSPRING MATTRESS  
AND  
DORMITORY BED



**BEST BUY  
FOR BUDGET PRICE...  
RUGGED DURABILITY  
LONG TERM ECONOMY**

Englander's Varsity Ensemble, America's most popular dormitory bedding installation, guarantees years of dependable, comfortable service at low cost.

In the face of today's tighter budget requirements—rising maintenance and expansion costs—Varsity delivers dependable, long term economy with **NO SACRIFICE** in quality.

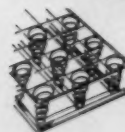
Varsity is the answer to every school's budget needs.

See your Englander dealer today for full information on our complete line of quality bedding for institutional use, or write to:

### THE ENGLANDER COMPANY, INC.

CONTRACT DIVISION • 1720 Merchandise Mart • Chicago 54, Illinois  
206 Lexington Avenue • New York, New York

**EXCLUSIVE  
CENTER SPRING  
COIL SUPPORT**



Gives additional firm support in the center of the spring where 65% of sleeping weight is concentrated. Adds years of life to mattress and spring!

*Available in*

**STANDARD OR  
KING SIZE  
LENGTHS**



## Englander

THE FINEST NAME IN SLEEP



# Here's the new HerNel-Cool II Unit Ventilator. . . b

## INSTALL IT NOW . . .



**Y**OUR new school's heating and ventilating system can be as modern as tomorrow—and stay that way—if you plan around the new HerNel-Cool II!

Every essential for classroom comfort, including air conditioning, is provided in this "last word" system. Every month of the year, the climate inside each classroom can be that of a perfect June day—comfortable, fresh, clean—with no drafts, no dead spots, no stale over-heated air.

Check these features—only the HerNel-Cool II offers all of these:

- 1 **Flexible air conditioning:** The same pipes which carry hot water for cold weather heating carry chilled water

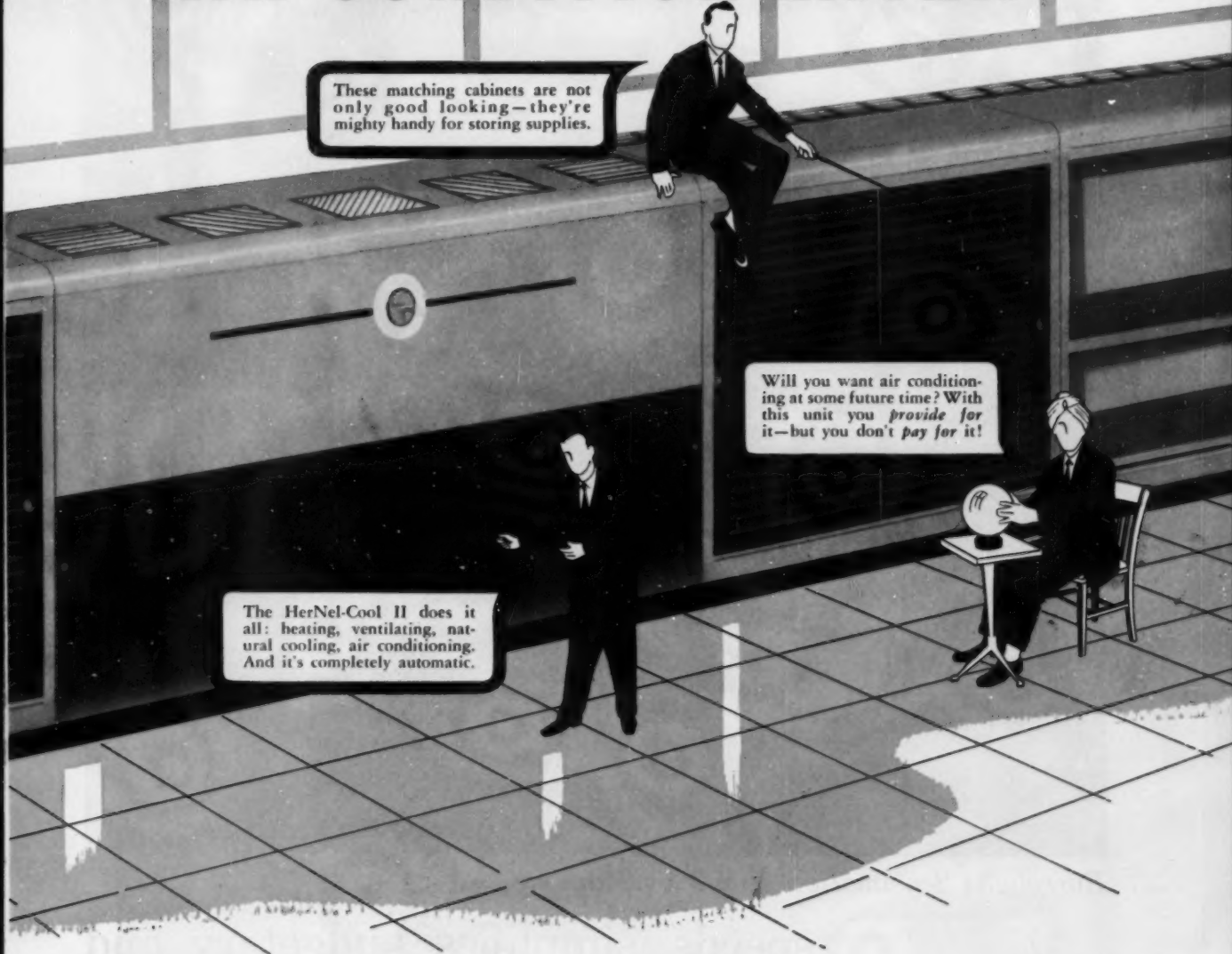
for summer air conditioning. All you need is a chiller in the boiler room. It can be provided initially or at any future time. Whenever air conditioning is desired, you can have it with a minimum of expense, with no disruption, with no costly alterations!

- 2 **Famous DRAFT|STOP\* method of controlling window downdrafts** without adding to the classroom heat load. Cold window drafts are trapped, drawn into the unit, then warmed and gently circulated.
- 3 **Circulating hot water** for heating—with either wall-hung, cabinet-base, or recessed-edge perimeter piping. The most flexible, most economical heating system there is. HerNel-Cool II heats only when heat is needed—



...by Herman Nelson

# • • • AIR CONDITION LATER



These matching cabinets are not only good looking—they're mighty handy for storing supplies.

Will you want air conditioning at some future time? With this unit you *provide* for it—but you don't *pay* for it!

The HerNel-Cool II does it all: heating, ventilating, natural cooling, air conditioning. And it's completely automatic.

saves fuel when it is not.

- 4 *Completely automatic individual room control* for true comfort in every season. The HerNel-Cool II "thinks for itself" and provides rapid heat, air for ventilation, or air for natural cooling as the room requires. In hot weather, when outside temperatures soar, it switches automatically to mechanical cooling.

A HerNel-Cool II system fits into today's school budget ... but its benefits will be enjoyed for many years to come. Today—or twenty years from today—pupils will be alert and comfortable from the opening of school to the closing bell. Teachers will be free to concentrate on *teaching*—in an atmosphere that's conducive to *learning*.

Want more facts? Ask your Herman Nelson representative or write to Herman Nelson Unit Ventilator Products, American Air Filter Company, Inc., Louisville 8, Ky.

*\*Patented, there are no substitutes.*

*herman nelson*

UNIT VENTILATOR PRODUCTS

American Air Filter Company, Inc.

SYSTEM OF CLASSROOM COOLING, HEATING AND VENTILATING



*in a class by itself . . .*



*Burroughs Sensimatic Accounting Machine*

## speeds, simplifies budgetary and general accounting—*automatically*

In one economical stroke, the Burroughs Sensimatic turns your budget, payroll, students' accounts, athletic accounting and any number of other jobs into simple, fast, completely mechanized operations.

As it automatically follows the chosen accounting procedure, the Sensimatic makes many complicated decisions and motions for the operator. She merely indexes the amounts on the

keyboard, presses the proper motor bar—and watches the Sensimatic go to town. She has her choice of four jobs at the flick of a knob on the exclusive Sensing Panel. And for more jobs, she merely slips in another of the interchangeable panels.

Nothing approaches the Sensimatic for speed, accuracy and versatility. And it's so simple, so automatic that operators master the Sensimatic in

far less time than you might expect.

Want a more streamlined accounting operation, with new savings in time and effort? Call our nearest branch for a Sensimatic demonstration. Or write Burroughs Corporation, Detroit 32, Michigan.

"Burroughs" and "Sensimatic"—Reg. T.M.'s.





# VERSATILITY +

a chair and a desk that folds to only 3"

**CLARIN**

**TABLET ARM  
FOLDING CHAIR**



## a complete class

CLARIN Tablet Arm Folding Chairs are ideal for classroom work as they provide a scientifically determined writing height coupled with sturdy, comfortable seating. Chairs are easily rearranged to provide for different types of classroom work or for expanded classes. When seating only is required, the ingenious tablet arm folds down alongside the chair completely out of the way.

## an informal group

CLARIN Tablet Arm Folding Chairs provide the versatility that allow them to be arranged to suit the occasion. They may be grouped around a table, desk or another chair for informal groups or may easily be lined up along the walls for social functions. Getting in or out of the chair is extremely easy as the arm may be simply swung up for effortless exit or entry.

**CLARIN MANUFACTURING CO.**

*The oldest and largest exclusive manufacturer of steel folding chairs...*

### FOLDS FLAT IN 3 STEPS FOR MINIMUM STORAGE



1. Tablet arm lifts to right, making it easy to get in or out of chair.



2. Tablet arm swings down permitting use as regular chair.



3. Chair folds in normal way and tablet arm swings over flat against seat. Folds to 3" thick.

### TEN YEAR UNRIVALLED GUARANTEE!

The tangible sign of long-term economy is the guarantee date stamped in one leg of each Clarin chair. It is permanent assurance to all that you purchased the best.

### SEND FOR COMPLETE INFORMATION

**CLARIN MANUFACTURING COMPANY**

Dept. 9, 4640 W. Harrison St., Chicago 44

- ☐ Please send complete literature.  
☐ Please have a representative call.

NAME

SCHOOL OR CHURCH

ADDRESS

CITY  STATE





## Why don't you talk to the men at Cumerford about raising the money?

For years, this new dormitory was only a dream—but now it has almost been realized.

The men at Cumerford helped this dream come true. As a leading fund raising organization in the college and university field, Cumerford men have solved fund raising problems on many a campus.

If fund raising is on your mind, why don't **you** talk to the men at Cumerford? There is no obligation—no cost

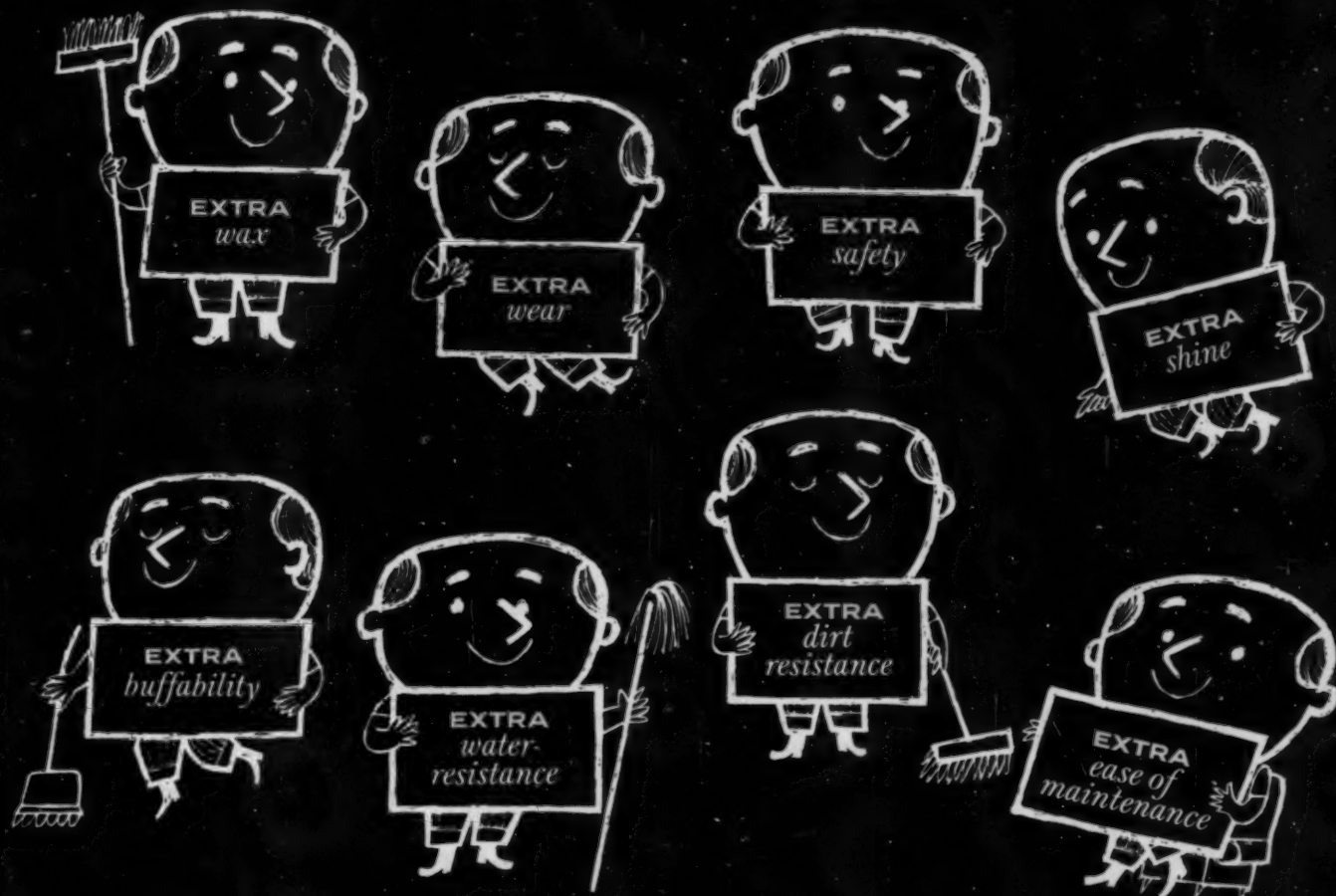
involved in a consultation—and you may be sure that Cumerford's recommendations will be sincere and objective.

Development is in every college or university man's thoughts nowadays. Money is the key. Why don't **you** ask the men at Cumerford about raising the money? A letter or telephone call will bring a consultant to your office. Cumerford, Incorporated, 912 Baltimore Avenue, Kansas City 5, Missouri. Telephone BALtimore 1-4636.



# WAXTRA

the *Wax* with all the *Extras*



## Johnson's great new self-polishing floor wax

Waxtra—with all the extras you've ever wanted—all in one superior floor wax.

- Extra Wax • Extra Wear • Extra Safety • Extra Shine • Extra Buffability
- Extra Resistance to Water • Extra Resistance to Dirt • Extra Ease of Maintenance

Waxtra guarantees better looking floors with less work and less cost. Keeps appearance up and upkeep costs down. For a convincing demonstration of all the extra qualities of Waxtra . . . or to place your order . . . phone your local Johnson's Wax distributor today.

For your distributor's name, write: S. C. Johnson & Son, Inc., Maintenance Products Department CUB-57, Racine, Wisconsin.



"Johnson's" & "Waxtra" are trademarks of S. C. Johnson & Son, Inc.

PRODUCTS AND SERVICES FROM JOHNSON'S WAX TO SOLVE ANY FLOOR PROBLEM





How SLATER can  
help solve *your*  
**FOOD SERVICE**  
problems . . .



## *Reduce Your **FOOD** **SERVICE** Costs . . .*

High cost is the number one food service problem in the majority of colleges and universities. Since almost every detail of food service affects the cost to some degree, cost control is important and complex. Through more than 30 years of experience, SLATER has developed a service which integrates all these details. Modern cost control methods, expert buying, skillful food preparation, experienced menu-planning and understanding personnel training all combine to reduce costs and to improve quality. Yet SLATER service is individually patterned to meet your own special requirements while you retain control of all food service policies.

If you would like to know more about SLATER management in relation to your own problems, write or telephone collect.

**SLATER**

## **FOOD SERVICE MANAGEMENT**

Lombard at 25th Street • Philadelphia 46, Pennsylvania • Kingsley 5-4600

### **AMONG THE COLLEGES AND UNIVERSITIES SERVED BY SLATER:**

Bard College  
Beaver College  
Bethany College  
Centre College  
Cincinnati College Conservatory  
Clarkson College of Technology  
Dickinson College  
Eastern Baptist College  
The Episcopal Seminary  
Geneva College  
Green Mountain Junior College  
Hampden-Sydney College  
Hartwick College

Hiram College  
Hofstra College  
Ithaca College  
Le Moyne College  
Longwood College  
Loyola College  
Lutheran Theological Seminary  
Mankato State Teachers College  
Memphis State College  
Middle Tennessee State College  
Morehead State Teachers College  
Moravian College  
Mount Union College

Muhlenberg College  
New York State Medical College  
New York State Teachers College  
Niagara University  
Pennsylvania Military College  
Pennsylvania State Teachers College  
Pratt Institute  
Princeton Theological Seminary  
Richmond Professional Institute  
[William and Mary College]  
Roanoke College  
St. John's College  
St. Joseph's College

Stevens Institute of Technology  
Temple University  
Union Theological Seminary, N. Y. C.  
Union Theological Seminary, Richmond, Va.  
United States Merchant Marine Academy  
University of Dayton  
University of South Carolina  
Upsala College  
Western College for Women  
Westminster Choir College  
Winona State Teachers College

**Plus Many Preparatory Schools**



## ***An Organized Look at Needs of Education Beyond the High School***

**DAVID D. HENRY**

President, University of Illinois



PRESIDENT EISENHOWER'S MESSAGE TO CONGRESS in January 1956 included a statement on the great problems confronting the agencies of higher education and the importance to the nation of giving those problems prompt attention. Soon thereafter, the President's Committee on Education Beyond the High School was appointed and held its first meeting.

The charge given by the President was a broad one. The Committee's scope goes beyond the services of colleges and universities and includes all agencies for the educational service of adults. Further, the 36 member Committee is to deal not alone with the problems that now exist, but positively, as the President said, with the fact that "changing times and conditions create new opportunities and challenges."

It appeared very early that the Committee had a choice between preparing an exhaustive report upon the subject of its assignment, including philosophy, analysis and advocacy of a comprehensive program of recommendations, and a report of limited objectives concentrating upon a few central ideas that can stimulate immediate action and point the direction of future planning. The Committee has adopted the latter course.

The recently issued *Interim Report* of the Committee contained six preliminary conclusions. They may also be regarded as premises upon which solutions should be based. Because they create the climate for the consideration of the issues before the Committee and because they are fundamental in a coherent attack upon the general problems, they are worthy of note at this time.

1. Our ideals and the increasing complexity of our civilization require that each individual develop his or her talents to the fullest. *The problem:* What are the obstacles to the developing of each individual to his optimum, and how shall they be removed? What is the rôle of counseling and guidance and what other assistance should be provided?

2. The needs of the individual and of society plus an unprecedented growth in the population of post-high school age will far outrun the present or planned capacity of existing colleges and universities and other posthigh school institutions. *The problem:* How shall we plan for the development of institutional capacity?

What is the present progress in planning and how may it be stimulated?

3. The needs of the oncoming millions of individuals with varying capacities and interests will call for a broader range of educational opportunities, and less rigid time requirements. *The problem:* How may present institutions and programs be enlarged and changed and what new ones would be most helpful? What is the rôle of community colleges and other institutions with varying objectives?

4. Many more able and qualified teachers will be needed than present efforts can provide. *The problem:* How may teacher resources be extended and how may additional numbers of good teachers be recruited?

5. There must be promptly formulated an explicit, considered policy as to the rôle of the federal government in education beyond the high school. *The problem:* How is such a policy evolved? What are its component parts? What are the immediate issues?

6. Even with the best possible utilization of existing resources, additional financial support must be provided if additional millions in the population are to be enabled to develop their talents to the full. *The problem:* Financial support is the key to expansion. How may expenditures for education keep pace with the expanding economy? How may education improve its position in the total expenditures of the nation?

To those who are vitally interested in any given subject, the evolution of national attention to that subject is tediously slow.

We are ill equipped to make national appraisal of education outcomes on a continuing basis, particularly appraisals involving the consumer, the employer, the parent, the student, the layman in general. It is obvious that this need will not be permanently filled by occasional conferences or committee reports. Perhaps one of the important outcomes of the President's Committee will be a public awareness not only of the present problems and some suggested solutions but also of ways and means to prevent the recurring crises in education resulting from lag and poor planning.

The President's Committee gives the nation an opportunity to take an organized look at the needs for education beyond the high school, the capacity to fulfill those needs, and a program for action in the future.



# LOOKING FORWARD

## **Ethical Recruiting**

TODAY IS A BUYER'S MARKET FOR COLLEGE GRADUATES. Top man on the totem pole is the student with an engineering degree. The heavy demand by industry for the limited number of graduates available has led to many questionable practices in recruiting.

Recognizing this, the American Society for Engineering Education and the Midwest College Placement Association have joined to prepare a new code of ethics on recruiting practices and procedures.

According to the code: "Employers should avoid elaborate entertainment and overselling. There should be no special payments, gifts, bonuses or other inducements, nor should there be reward for a third party who may prevail upon a student to accept an employment offer.

"On the student side, students should not hoard or collect job offers. When a student accepts an offer, he should let other prospective employers know his decision and should not accept additional interviews. Students invited to visit plants or company headquarters should decline unless sincerely interested in working for the company, and their expense sheets for such trips should include only expenses directly concerned."

Such counsel is long overdue. The fantastic offers that some college graduates have received are of such nature as to give the student an exaggerated sense of his own importance. The industry making such offers is likely to discover it has a prima donna on its hands, who will become a personnel and productivity problem as soon as he gets on the payroll.

A code of ethics will not solve the problem of questionable practices by industry and student in attempting to come to a mutual understanding relative to employment. It may help in bringing the proper perspective to the employer-employee relationship, however, and introduce a concept of integrity that has not been previously apparent.

## **Is Federation the Answer?**

FOR SOME YEARS THE REGIONAL COLLEGE AND UNIVERSITY business officer associations have been working cooperatively as a federated group. The National Federation of College and University Business Officer Associations has been instrumental in initiating and completing the 60 College Cost Study and, more recently,

has established a management consulting service for college administrators.

Two of the main handicaps to more effective functioning of the federation are its lack of financial resources and the inherent weakness found in any federated organization. The lack of finances limits the scope of service to be rendered and a federated structure is only as effective as its constituent groups will permit it to be.

The basic objectives and technics of the regional business officer associations are essentially alike, in spite of the smoke screen that goes up from each association to the effect that "our problems are different." This emphasis on "differences" rather than "similarities" has kept the regional groups from coming together and working more significantly as a national group. It is not likely that the business manager will achieve professional status until he becomes a part of a national group that operates with more cohesiveness than has been apparent in the past.

As has been mentioned in these columns previously, it is remarkable that all other segments of university administration are effectively functioning in national groups. College presidents, registrars, deans, purchasing agents, union directors, housing directors, personnel managers, and directors of physical plant find national organizations helpful in achieving professional status and unified action. Only the business officers continue to cling to their little regional empires. In the process they weaken their potential for really effective leadership in higher education on a national scale.

When the directors of the National Federation of College and University Business Officer Associations meet for the annual meeting this summer, it might be in order for them to restudy the federation's objectives and program.

Is federation the best answer for college business officers?

Can a national organization do a better job?

How often should national meetings be held?

Is the present financing of the federation adequate?

What is the next logical step in enhancing the business officer's place in the administration of higher education?

Such questions will not be answered by timid, piecemeal approaches. Some bold imaginative thinking is required—and right now, not in 1960.





Students who fail cost a lot of time  
and money. We must spend more  
time and money to find out

## Why They Fail

T. H. MATTHEWS

Registrar, McGill University, Montreal, Quebec

ABOUT ONE-THIRD OF THE HIGH school students who come to the universities of Canada fail, for academic reasons, to graduate. This is a shocking figure. Yet while it shocks, it naturally suggests a solution to the problem of academic failures.

Let us simply refuse to admit this third. If we rejected the applications of these bad students who are going to fail we could, without increasing our staff or building a single new classroom, admit many more students—all good ones. Our colleges would be filled, but not uncomfortably so, with bright young men and women all working hard, all passing their examinations, all obtaining degrees, and all a great credit to their alma mater. Such an infallible admitting policy would usher in academic utopias which, like most utopias, would be very dull places. Let us not regret that it is impossible.

### SERIOUS PROBLEM

Yet that 33 per cent of failures is a real and serious problem. It represents a vast waste of time and effort, of brains and money. A failure rate of 33 per cent is a disease of a major kind that afflicts thousands of young men and women. It is time that we who are struggling to reduce the incidence of this disease were provided with more adequate means for making a thorough study of it. Even without such help, we must clearly try to pull this failure rate down, but it is not going to be easy. I certainly do not

have the magic prescription, but I shall analyze the causes a little further and make a hint or two toward possible remedies.

A student who fails at college must presumably do so for one or more of these reasons:

1. Our entrance requirements are not stiff enough, so that we have admitted a student who either lacks the necessary intelligence or is inadequately prepared.
2. The entrance examinations themselves are unreliable and should be blamed. Alternatively, of course, our own examination marks may not be valid and we are, perhaps, throwing out the wrong student.
3. The student is not interested in his college courses and does not work hard enough.
4. He has serious personal problems.

Here are my estimates of the relative importance of the causes of those failures listed and some suggestions for cutting down the wastage resulting from each.

### LACK OF BRAINS

Where Canadian studies of academic failures have taken into account intelligence tests administered by the schools the students come from, the general conclusion seems to be that lack of intrinsic mental ability is seldom the sole cause of academic failure. A study recently made by the Vice-Principals of Toronto's Secondary Schools supports this. It states: "The relationship between the intelligence quotient and the university achieve-

ment is not so great as might be expected."

As an example, this report shows that, in 1954, 124 local high school boys entered the first year of the faculty of engineering. Ninety-nine of these had I.Q.'s of 116 or more, 25 had I.Q.'s below 116. Of the 99 with the higher I.Q.'s, 36.3 per cent failed. Of the 25 with the lower I.Q.'s, 44 per cent failed. The difference between 36 per cent and 44 per cent is certainly not striking.

### "THE MOST INTELLIGENT FAILED"

The University of Western Ontario has, I think, been carrying out this valuable kind of self-analysis longer than most of us, and one of its recent reports strongly supports this contention. At Western, 91 out of the freshman class of 1954-55 failed, and no less than 36 of these were shown in A.C.E. aptitude tests to be in the highest third of the standard percentile list. The report says bluntly: "Thirty-six of the most intelligent students in the university failed." The figures show further that the least intelligent students, according to the A.C.E. tests, did rather better.

I am not suggesting that curious things like these normally happen in Toronto or London. They do not. Nor am I suggesting that the failure of intelligent students is peculiar to Ontario. It is not. They have failed in all the other provinces, and will again. On the other hand, thousands of examples indicate that generally boys and girls with high I.Q.'s do better at college than boys and girls with low

From a paper presented at the National Conference of Canadian Universities, Ottawa, Ont., November 1956.



I.Q.'s, and that scholarships, medals and prizes are won by students in the high I.Q. group. This paper, however, is concerned with our failures and not with our great successes, and the only lesson we should draw from the Toronto and Western figures is that the I.Q., by itself, is not enough to enable us to predict success at college.

Giving too much weight to scores in intelligence or scholastic aptitude tests is not one of our common faults. The Canadian universities generally go to the other extreme and take no account whatever of such scores even where they are available. This probably is unwise and I hope we shall make some efforts in the near future to determine how such scores could be used at admitting time, to improve the selection.

#### INADEQUATE PREPARATION

The temple of learning has many floors but one thing is common to those in charge of every floor: They are dissatisfied with the training given on the floor below. It is what you might call an endemic complaint. Generally it means little, and often the remedy is in our own hands but not used because it is more fun to grumble. Sometimes the complaint is more justified. We all know, for example, that there is at present a shortage of first-class teachers of mathematics and science in our schools. The remedy for that shortage does not lie with us and, if we become aware that some of the students we have admitted are badly trained in these or other subjects, all we can do for these sufferers is to provide and prescribe remedial treatment. I can only add in fairness to the schools that the freshmen will be lucky if, when they get to college, they discover that all the professors at whose feet they sit are first-class teachers.

#### THE ENTRANCE EXAMINATION

Students succeed at college by passing examination papers. It is therefore to be expected that examination papers are the best test of their entrance qualifications. This expectation is, I think, confirmed by results. It is certainly supported by the Toronto Vice-Principals' report, which states: "If a student has an average of 70 per cent or more in Grade 13, has an I.Q. of 115 or more, spends only one year in Grade 13, and is not over 19 years old, he should succeed in the more difficult courses at university."

It is interesting to note that in September 1955 the Toronto faculty of applied science and engineering raised its admission requirements to an average in Grade 13 of 64 per cent. I have not yet heard what effect this has had upon the Toronto rates of failure, but I can bear witness that it has had some effect upon the number of Ontario students making applications to McGill.

At McGill we have recently made a study of the academic careers of all the men and women who entered the first year of the faculty of arts and science in 1950 and the faculty of engineering in 1949, *i.e.* the "class of 1954." Our figures show that out of 87 students who entered with an examination average of 80 per cent or over only two failed, for academic reasons, to graduate. Of those who came in with marks between 70 per cent and 79 per cent, nearly 25 per cent failed, and of those who entered with a mark below 70 per cent, more than 41 per cent failed.

To have insisted on a mark of 70 per cent in the entrance examination would have reduced the over-all percentage of failures from 29 to 21. This, it should be noted, is still one student out of every five, which is certainly too many, especially for students with good matriculation marks.

Anyone who has been able to make even such simple studies as this will agree that the results obtained are most revealing and that they ought to be useful. Our own preliminary figures show, for example, that 50 per cent of the students who entered McGill through one Quebec examination failed. The percentage of failures for those writing another Quebec examination was 24 per cent. We treat the marks as equivalent, but clearly they are not. If we had reduced the marks in the easier examination by 10 per cent or so, we should have been treating our applicants more justly, and we should have cut down the number of failures.

#### HOW VALID ARE EXAMINATIONS?

Examinations are far from reliable, but I see no reason to think that the entrance examinations are any less reliable than the papers set by our university colleagues. Indeed, it seems probable that the provincial matriculation papers are, on the whole, more carefully set and more carefully marked than are our college papers. In either, the very good students will get high

marks and the very bad students will get low marks, but will what I shall call "the 70 per cent student" always get 70 per cent? We know that he will not.

If our minimum requirement for admission is 70 per cent, this element of chance may clearly be a matter of great importance to the individual candidate. It suggests that we should use some additional criterion in deciding the doubtful cases at least. With this in mind, we have for several years at McGill been demanding a confidential report from each applicant's school. These are found useful in deciding the borderline applications, but they sometimes raise new difficulties.

#### STANDARDS VARY

To look through a hundred or two of these confidential reports is to see that the standard of one school is not that of another. One school in Montreal described a boy who obtained a total of 85 per cent in the provincial examination as "of good average ability"—and this was after the examination results were known. To another school that boy would have been a world-beater. Accidentally, one school sent us two reports upon the same girl applicant. In May the school said she was not equipped for university life and work, and recommended that we not accept her. She was described as having ability but being greatly averse to using it: in brief, "not a student." In August the same school recommended her strongly and described her as "serious minded, hard worker, pleasant and popular with classmates and teachers." This shows that the unexpected can happen in Montreal as well as in London.

These confidential reports, I should add, are generally much more reliable than this amusing example suggests, but there is one real difficulty in making full use even of those you believe to be particularly sound. Your entrance requirements are probably stated rather definitely, and you get into trouble if you decide to refuse a student who obviously has completed the academic requirements you have laid down. If you say his school doesn't recommend him, you let the school down, and the "confidential report" is no longer confidential. I would suggest, therefore, that if you intend to make the best use of such information you may have to modify the statement of your admission requirements. The confidential letter can be a valu-



able aid in diagnosis, but the technique of using it for Canadian students needs further study.

So far, I have dealt only with the selection of students, *i.e.* what we might do to keep out the incompetents. But it is not only the incompetents who fail. As mentioned, more than 20 per cent of the students admitted at McGill to the first year of the "class of 1954" with an entrance mark of 70 per cent or higher failed for academic reasons to graduate.

A year ago the chairman of the scholarships committee of our faculty of engineering told me that the best man in its third year had made the particularly high average mark of 95 per cent. This committee, however, was not recommending him for a scholarship. When I asked why not,

Many students find it hard to adjust themselves to college life.



he said that the brilliant student was a repeater. The session before he had done terribly in the same subjects and, had he done badly again, as many repeaters do, he would have been thrown out.

Why did such an able student fail the first time? I think the answer is that he was not sufficiently interested in his university work or, if you like, that he was much more interested in something else. I believe that the greatest single cause of academic failures is this lack of interest, and that it is important that we should try to discover why students with adequate abilities are not interested in their university courses and, consequently, do not work hard enough.

The Toronto Vice-Principals, before publishing the report, interviewed all students with Grade 13 marks of 70 per cent and higher who failed. Of these students they write: "In no case did the student admit that the work at university was too difficult or beyond his ability to understand. Most failures were primarily due to lack of work. Several students admitted that

they became too engrossed in outside activities and put off study until it was too late. In three cases failure was partly due to emotional disturbances. Three others failed, in the opinion of their teachers, because they were immature in their thinking or unsettled in their mind."

We all have students like these. They have met our entrance requirements with something to spare. We have admitted them and thereby assumed some responsibility for them. If they then fail we have an obligation to discover why, and if the fault is partly ours, we ought to try to reform. If we admit an idiot or two, no great harm is done, but if we fail to develop the potentialities of a good man, this is a serious matter.

When students with adequate ability to pass actually fail, the reasons are usually one or more of the following: (1) having difficulty in adjusting to the freedom of college life; (2) being in the wrong course; (3) having an initial interest killed by dull lectures or by apparent neglect; (4) having a naturally perverse nature.

To a large degree these are all variations of lack of adequate interest, but I think they deserve separate treatment.

#### ADJUSTING TO COLLEGE LIFE

Many students find it hard to adjust themselves to college life. They are young and, frankly, they get little help. When I regret this, friends try to "remind" me of the freedom of Oxford and Cambridge. I refuse to be reminded. It is a long time since I was an Oxford undergraduate but I think, and hope, that the old rules are still enforced. In my student days I had to get up and attend an 8 a.m. chapel service four or five times a week; I had to wear a gown outside my college after 8 or 9 p.m.; I had to pay a fine if I came in after 9 p.m.; I really got into trouble if I was out after midnight. I had to visit my tutor twice a week and convince him that I was doing an adequate amount of work, and, finally, I had to pass an examination known as "collections" every term in order to remain in the college. If this is treating students as



grown-up men and women, I support it.

It should be added that in Canadian universities the age of freshmen is at least a year below that of freshmen in England. Canadian first-year students are not men and women but boys and girls. Many of them feel lost and badly need more individual attention and recognition than we can possibly give them in our larger universities. This is a situation that will grow worse within the next few years unless we have the will and the means to remedy it. It will mean a bigger staff but it will also call for very general cooperation from every teacher. If the need exists in your university, and it probably does, I hope you will persuade faculties to discuss it thoroughly.

In my opinion there should be more compulsion and more discipline in the first years. It is my experience that the happiest group of students we have are those who are passing their examinations with confidence. To make a student work hard, especially if the compulsion is not obvious, is not to make him miserable, but to make him happy—and the same principle probably applies to our staff. More class tests, more term tests, more tutorials, and heavier penalties for slacking may together sound like echoes from a penitentiary, but in practice they would add to the happiness of students and be in the interests of Canada.

#### BEING IN THE WRONG COURSE

A considerable number of students choose the wrong course. Some of them are pushed unwillingly into college by their parents. For these every course is wrong. Others, on the other hand, are so anxious to get into college that they will gladly enter almost any course for which they are qualified. It is surprising how often parents ask: "Isn't there any course at McGill that a girl with Mary's marks can enter?" Such a question may not illustrate the noble sentiments of our convocation orations, but they are a genuine tribute to the importance placed upon being in college by some Canadians. If Mary is admitted, she is not strictly in the "wrong course" even if she fails.

Other students who come to college with serious intentions may have the wrong goals and, as a consequence, may choose the wrong course. This naturally leads to boredom and to fail-

ure, but the treatment, better vocational guidance in schools and universities, is known and, if applied, is effective.

#### BEING BORED

I sometimes wonder whether the high failure rate among students may not indicate a failure on our own part to do *our* job properly. I have interviewed hundreds of students who have failed but I never remember one who excused his failure on the grounds that his lectures were too dull to interest him. This is, I think, a tribute to the politeness or diplomacy of our students rather than evidence of our own blamelessness.

One obtains a franker opinion when one talks to graduates at a reunion cocktail party, for then the truth is likely to come out. If we are honest, we must admit that some of our teaching is definitely uninspiring, and we should not be surprised if lively young men and women neglect what is tiresome in favor of things they obviously find more enjoyable. If this is true it means that many failures in the examination room are the result of previous failures in the lecture hall.

There are perhaps two main reasons why it is difficult to improve the quality of our teaching. The first is that although professors are professional teachers and are paid as such, they sometimes lack a truly professional attitude to their job. There is far too much faith in the legend that good teaching is a natural outcome of vast learning. Unfortunately, this is not so.

The second difficulty is the neglect of presidents and deans to reward good teaching by recognition and promotion. A man who gives perhaps 200 stimulating lectures a year and makes young people love a subject, in my opinion, is doing as much for his university and for the nation as a colleague who has two learned articles published in the Proceedings of the International Congress of Byzantine Archeology. If we expect our students to be prepared to learn properly, haven't they a right to expect their professors to be prepared to teach properly?

These are some of the main causes of failures. Even if we can reduce their effects, there will still be a small number of truly perverse students, full of original sin and immune to all our medicines. They are a nuisance on any campus, although perhaps they pre-

vent us from becoming too smug over our successes. Luckily, they are few in number.

Many of our colleagues expect to fail a certain percentage of students writing their examinations, so that to some degree these examinations are a double competition. Some of the candidates are aiming at the prizes at the top; others are struggling away from the penalty at the bottom. I believe this "devil take the hindmost" kind of competition to be healthy and, indeed, necessary as an academic stimulant, but it must be pointed out that if every examiner fails 10 per cent of his candidates there almost certainly will be some students "required to withdraw for academic reasons."

#### SUMMING UP

This paper started with the contention that it was impossible to abolish failures. What follows shows that one old-timer is vague about what might be done to reduce them. This vagueness, which I readily admit, arises in large measure from two weaknesses or deficiency diseases of Canadian universities. The first is that our administrative staffs from principals and deans down to assistant registrars are overworked. If some of us are going to be forced by population pressure to limit our enrollment—and I think and hope we are—and if we want to do for the nation the best job we can, we must have a larger staff and consequently more time to study these problems and make plans.

Our second weakness is that in Canada we have almost nothing corresponding to the many agencies that help the colleges in the United States to study similar problems. To balance great and relatively wealthy organizations like the American Council on Education, the College Entrance Examination Board, the Educational Testing Service, and many other national and regional associations, we have a small branch in the Dominion Bureau of Statistics and this Conference, which, up until the present at least, had the great limitations as well perhaps as the minor advantages of being a purely amateur team.

It is time, I suggest, that the Conference turned professional and helped its members with their common problems. We and Canada waste a lot of time and money on students who fail. We must spend some more time and more money to find out how this waste can be cut down.



**Colleges and universities  
have led the way in providing**

## ***Jobs for Older Workers***

**L. H. GLANDER**

*Director of Personnel, Michigan State University, East Lansing*

MUCH HAS BEEN WRITTEN IN THE past few years about the difficulty of older persons finding employment. It has become a serious social and economic problem, especially for people in their fifties. In some cases it is difficult for those in their early forties to get jobs. There have been suggestions on how such persons can adapt themselves to jobs in business and industry or can operate a business venture of their own. Some progress has been made in this field.

However, I do not recall any reference to older workers obtaining jobs in colleges and universities when, in reality, institutions of higher education have been pioneers in this field. Some will say: "Why, that's easily understandable; rates of pay are so low that older workers are all they have been able to hire."

That point of view might have had some merit years ago, but in general most colleges and universities pretty well approximate the wages paid for comparable jobs in the area in which they are situated. But take whatever point of view you may, it is a fact that colleges and universities have hired the older workers for many years. No doubt, they will continue to do so in even greater numbers. This has not been done with a social welfare idea in mind, for colleges have just so much money to spend and they intend to spend it as efficiently as possible.

The truth is that educational institutions have more jobs available than the older workers can do well than normally exist in industry. In fact, the number of jobs available for older workers has increased greatly with the tremendous growth of our educational institutions, especially in those institutions that have expanded their residence hall and food service operations.

What has been the experience of hiring the older people in the various jobs on campus? No doubt, some colleges have hired too many in certain classifications and, without adequate retirement programs, have carried them far beyond the normal retirement age of 65. In some cases these persons have not been able to do their share of the work. However, no college or university intends to hire just the older people. There should be a balanced work force to the extent of making the most use of both the younger and the older workers.

Here are a few of the distinct advantages to hiring the older worker:

1. The older worker has a willingness to work and appreciates his job

more than does a younger worker. In general, an employee who was of working age during the last depression has a different attitude toward work than some of our younger employees.

2. He will be a steady employee and will not quit as readily as the younger worker because some other job might look a little better. He puts more emphasis on security and stability.

3. Although he may be more receptive to illness, he will not violate sick leave to any extent because he is sincere and conscientious about his work.

4. He has an interest in his work and wants to do it well because he knows it will be difficult to get employment elsewhere. He prefers work

A great majority of older workers are in the food service classifications, and many more work as maids or janitors.





in a college atmosphere rather than in industry. Research shows that the older worker is interested primarily in his health, his financial situation, the human relations climate where he works, and, of course, the nature of his job.

5. True, he may be a little slower, but not so much slower as to be noticeable, if he is placed in a job he is physically able to do. Older people are experienced and many times develop other ways to do a job to compensate for their physical shortcomings.

College personnel directors found out long ago that there tends to be a correlation between job satisfaction and age, particularly in the lower rated jobs. In other words, younger workers tend to be more dissatisfied with the lower rated jobs on campus than do older workers. They have found out also that it does not pay to place over-qualified persons in these classifications, especially where education is concerned. The low rate of turnover experienced by colleges and universities in many of these jobs is due, to some extent at least, to hiring many older workers who are interested in security and stability.

Colleges and universities with centralized personnel offices are doing a much better job of screening applicants in order to get the right person for the right job than was done years ago. It is now general practice to require a complete physical examination before employment. Certainly this has removed some of the doubts about hiring older workers.

Younger workers have more opportunity to change jobs and will move around until they find a job in which they will be satisfied. Generally, the younger person is not interested in janitorial work and, although he will accept this kind of work, he will leave for a different job at the first opportunity. A recent survey by the College and University Personnel Association concerning the average age of janitorial staffs in 129 colleges and universities showed that in 74 of these institutions the average age of the janitorial staff was 50 years or older.

A great majority of employees in the lower classifications are in the food service classifications—food service helpers, bakers, cooks—and also in the maid and janitorial classifications. These are all jobs that an older person can do and do well. The rates of pay for these jobs usually are equal to com-

Many of our best skilled workers are in the older age bracket. In many cases they are the foundation of our skilled trades operation.



petitive jobs in the area and, in many cases, a little higher, because college requirements for many of these jobs are higher than normally are found in the food industry.

Jobs for older workers are not restricted to residence halls and food service operations. Many of our best skilled workers are in the older age bracket. In many cases they are the foundation of our skilled trades group and a very solid one at that.

Older workers are used extensively as laborers and gardeners in the grounds departments. Large campuses require many workers merely to maintain the grounds, not to mention the work involved inside the buildings.

Many clerical positions where the tasks are not too difficult are filled by older women, and to some extent by older men. These include telephone operators in the residence halls and clerical employees who do the more repetitive tasks. Many part-time jobs in the clerical field can be filled adequately by older women who want to augment the family income and still do not desire a full-time job. Most of the housemothers also are in the older age group.

What about the other side of the ledger? Some points that limit the employability of older workers should be brought out.

1. Older people are less willing to learn new jobs than younger people

are. However, there are many jobs for nonacademic employees in our institutions that can be learned in a short time into which these older workers readily fit.

2. The physical limitations of older people restrict the jobs that they can be placed in. In other words, transfers are somewhat difficult at times.

3. When older workers are blanketed under a retirement program, of course the cost is considerably higher and this restricts their employment by many firms.

4. Compensation laws, becoming increasingly rigid, also deter the hiring of older people. Some personnel directors are reluctant to place older workers in many jobs because of the fear that they may become compensation cases. Certainly, I am not criticizing the compensation laws, but when they become too rigid there is a tendency to restrict the jobs available for older people.

The question now arises: Do the good factors outweigh the bad? My answer to that question is an emphatic "yes!" Experience in colleges and universities has shown that there is a place for the older person and that it is to the advantage of the university on a dollars-and-cents basis to hire him. In addition, there is a moral obligation on the part of college and university administrators to help solve one of the greatest social problems in America.



# There's "Punch" in Our Payroll Procedure

**C. B. POWELL**

Chief Accountant, Alabama Polytechnic Institute, Auburn

ONE OF THE PROBLEMS COMMON TO industry and educational institutions is that of developing and maintaining proper records of employee earnings. On the surface, this does not appear to entail much effort or expense. How-

ever, recording and reporting the various taxes and other statistical data as required by government agencies, federal and state, and payroll deductions, such as saving bonds and retirement and insurance contributions, con-

stitute a large nonproductive expense. As this responsibility increases, we must endeavor to hold the cost to a minimum without sacrificing accuracy and speed. We believe the punch card method has enabled us to accomplish

PAYROLL REGISTER										ALABAMA POLA									
DATE	EMP.	EMP. NO.	EMP. NAME	EMP. ADDRESS	EMP. CITY	EMP. STATE	EMP. ZIP	EMP. SEX	EMP. AGE	EMP. RACE	EMP. REL.	EMP. OCC.	EMP. CLASS.	EMP. GRADE	EMP. PAY	EMP. DED.	EMP. NET	EMP. BAL.	EMP. CASH
03/15/56	DOE	JOHN	1009	30000	4100	475	220												
03/16/56	DOE	JOHN	1753	47900	4225	475													
33156 FED WITHHOLDING TAX										23153 33740									
33156 ST WITHHOLDING TAX										38719 33741									
33156 SOCIAL SECURITY ACCOUNT										8860 33742									
33156 TEACHERS RETIREMENT										438 33743									
33156 GROUP INSURANCE PREMIUM										1558 33744									
Earnings Gross ALA. FICA TAX ST. TAX S.S. TAX F.I.C. TAX S.S. TAX										2275 33745									
76500 77900 77900 8860 438 425 250 220										1493 33746									
Amt of checks										76500									

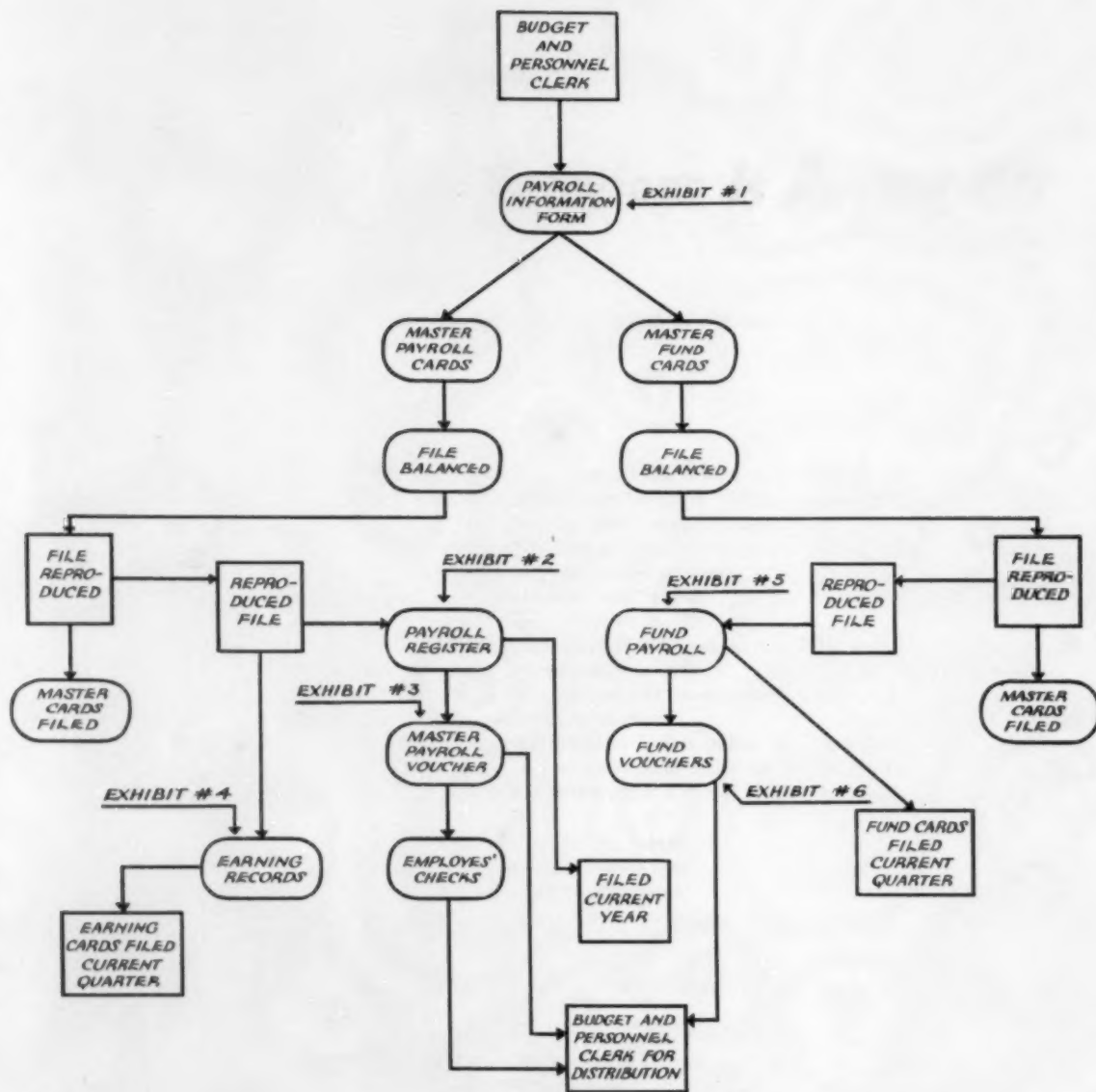
  

ALABAMA POLYTECHNIC INSTITUTE, AUBURN, ALABAMA		To be filled in by Business Office	
PAYROLL AND WITHHOLDING ACCOUNTS	March 31 1956 (Date Voucher Prepared)	Date Paid	3/31/56
Pay to: Individuals as per attached listing	Voucher No.	136	
Address	Check No.	33746 - 33746	
Class	FUNCTIONAL	CLASSIFICATION	AMOUNT
1956			230 00
March 1-31	Teaching		395 00
	Auxiliary Enterprises		140 00
	State With-Lover		

ALABAMA POLYTECHNIC INSTITUTE-EMPLOYEE'S EARNING RECORD														
NAME: DOE, JOHN										EMPLOYEE NO. 2315				
ADDRESS:										SOC. SEC. NO. 416-12-6578				
REF.	DATE	AMOUNT EARNED	EARNINGS & PERQUISITES	F.I.C.A. EARNINGS	FEDERAL W.D. TAX	STATE W.D. TAX	W.D. TAX	PERQUISITES	NET PAY	RET. FUND	S.S. TAX	F.I.C. TAX	W.D. TAX	AMOUNT OF CHECK





General Flow Chart

this end. At Alabama Polytechnic we have used punch card accounting machines in performing this task and, even though our employees have increased, we have not increased the personnel of the tabulating unit since the inception date of the punch card system several years ago.

Employees on a full-time fixed salary basis are paid monthly; all other employees are paid weekly, bi-weekly or monthly. Since the procedures for handling payments to the groups, salary and other, are not identical, we shall discuss the application for the salary group.

Briefly, a few facts about our budget control system and the forms

used in connection with our salary payroll application are given.

Our accounting period is from July 1 through June 30. Prior to beginning of a fiscal year, the various departments comprising our institution are required to submit requests for their anticipated needs for the ensuing year. These requests are divided into certain categories, one of which is salary. The salaries are subclassified as to (1) administrative, (2) instructional, and (3) clerical and certain others.

#### PAYROLL PROCEDURES

All salary payments are made to employees from a revolving account,

namely, payroll. The payroll account is reimbursed each pay period for the amount of salaries applicable to the respective department's personnel for the period involved. Therefore, two integral parts comprise our payroll procedures: (1) payments to employees from payroll account, and (2) reimbursements to the payroll account for salary disbursements. We shall designate and explain these two functions as master payroll and fund payroll.

*Master Payroll.* After the budget has been approved, the appointment papers for each salaried person are forwarded to the business manager's office. An employee's payroll information form (Form 1) is prepared and



**EMPLOYEE'S PAYROLL INFORMATION**

1. NAME **DOE, JOHN** No. **791**  
 2. SOCIAL SECURITY NO. **412-12-8707** **EXHIBIT #1** AN. RATE \$ **3600.**  
 TITLE **Supv.** MONTHLY AMOUNT **160.00**  
 ADDRESS **128 Miller Ave** DEPT. **Bus. Office** **160.00**  
 3. DIVISION **1** FUND **Teaching** Adm. **160.00**  
                   **2** **SSL**

4. EARNINGS	\$ 300.00	11. RETIREMENT	\$ 10.50
5. ERM. & PER.	\$ 300.00	12. HOSP. INS.	\$ 1.00
6. FICA ERM.	\$ 300.00	13. LIFE INS.	\$ 4.75
7. F/TAX	1 \$ 44.00	14. FED. INS.	\$ 2.20
8. B/TAX	M-1 \$ 2.00	15. S.C. IND.	\$
9. SOC. SEC.	\$ 6.00	16. SAV. BONDS	\$ 231.55
10. PER.	\$	17. AMT. OF CHECK	\$

Chg. in W/T dpts. **4/19/56** **3/20/56**  
 INFORMATION COMPLETED BY **jl** DATE

sent to the punch card unit. Master payroll cards, No. 1 and No. 2, are punched, the master card file for subsequent payroll operations being created. This master file changes only when there is a change in an individual's status in respect to rates, deductions, and so forth, or when an employee is added or terminated.

The master file is kept in alphabetic sequence and adjustments are made, if necessary, each pay period, and the file balanced. The file, as adjusted, is reproduced, cards being created for all employees to be paid for the given period. The master file remains intact until the next pay period. From the reproduced file (current payment) are prepared the payroll register (Form 2), which supports master payroll voucher; (Form 3), employees' checks; (Form 4), earnings records, and other reports as they are required.

The reproduced file is sorted in employee's number sequence and merged with other payroll cards for the current quarter. At the end of each quarter, earnings are summary-punched, detail cards are destroyed, and the summary cards filed for future use.

**Fund Payroll.** From the employee's payroll information form (Form 1) master fund cards are prepared for each employee, thus creating the master fund file for subsequent payroll operations.

The master file remains intact until some change is effected in an individual's status in respect to division, fund, department or title, or when an employee is added or terminated. For ready reference, this file is maintained in alphabetic sequence by department, within fund groups under the respective division of the institution.

Each pay period changes are made, if necessary, and the master file balanced. The adjusted file is reproduced, fund cards for the current payroll being created. From the reproduced file, the fund payroll (Form 5) is prepared to support an official expenditure voucher (Form 6), the payroll account for salary disbursements being reimbursed. The checks issued on the basis of these fund vouchers are deposited to the payroll account, the amount paid to the employees being replaced.

Fund detail cards are merged with like cards for the current quarter. Quarterly, expenditures are summary-punched, detail cards destroyed, and summary cards filed for future use.

**TEACHING FUND**  
**BUSINESS OFFICE**

0151 DOE JOHN **EXHIBIT #5** 16000 16000  
 HOME ECONOMICS 7000 7000  
 0130 DOE JOHN 23000

ALABAMA POLYTECHNIC INSTITUTE, AUBURN, ALABAMA  
**COLLEGE PROPER TEACHING FUND** March 31 1956  
 (Date for Payment by Dept.)

To be filled in by Business Office

Date Paid \_\_\_\_\_ Voucher No. \_\_\_\_\_  
 Check No. \_\_\_\_\_ CLASSIFICATION \_\_\_\_\_

Pay To: **A. P. I. Payroll Account**  
 Amount **Salary**

Explain Fully Purpose of Expenditure  
**Salary for the month of March 1956 for College Employees.**

Date of Delivery or Service **1956**

March 1-31 Salaries **EXHIBIT #6** 230 00

Total Amt. Claimed **230 00**

Deductions \_\_\_\_\_  
 Correct for \_\_\_\_\_

In signing this voucher the head of the department or director hereby certifies that the above goods have been received or services fully performed.

Department \_\_\_\_\_  
 Department Head \_\_\_\_\_  
 Date or Quarter \_\_\_\_\_

Home \_\_\_\_\_ Title \_\_\_\_\_  
 Subscribed and sworn to before me at Auburn, Alabama, this \_\_\_\_\_ day of \_\_\_\_\_ 19 \_\_\_\_\_

Name \_\_\_\_\_ Title \_\_\_\_\_



Four ways of figuring whether

## ***Your Public Relations Is Paying Off***

**VICTOR J. DANILOV**

*Manager of Public Relations, Illinois Institute of Technology, Chicago*

EVERY COLLEGE AND UNIVERSITY BUSINESS officer at some time probably has wondered about the effectiveness of the institution's public relations program. And there's every reason for him to be concerned if he prides himself on getting maximum results for every dollar expended.

Evaluating public relations, however, is not an easy task. In fact, it is questionable whether public relations can be measured at all with any great degree of accuracy. A recent survey of 272 colleges and universities,

for example, revealed that few of them had developed any effective methods for evaluating their public relations programs. This is not surprising, for public relations deals primarily with that intangible and elusive quality, good will. There is no formula for achieving good will, whether it is in factory, community or college. What succeeds in one case will not necessarily be successful in another.

Another problem is that public relations, unlike most other activities, is somewhat nebulous, and many of its

facets are subjective. The issue is clouded even further by the fact that the term "public relations" means different things at different institutions.

No one realizes the difficulty—and importance—of evaluating public relations better than the public relations director, for he must justify the existing or proposed program—and the expenditures.

The budgets of public relations programs of colleges and universities vary from a few thousand dollars to several hundred thousand dollars, and staffs range from the one-man office to the 10 or 15 man department.

Generally, the larger the institution, the more elaborate the public relations program. But this does not always follow. The size and nature of the public relations program are governed oftener by the attitude of the administration and the needs of the college or university. For example, a number of large universities have limited public relations programs simply because of the president's views. On the other hand, many small colleges have fairly extensive public relations programs because of their needs.

Regardless of the situation, certain basic public relations "tools" are available to all institutions. The manner and extent to which these technics are utilized constitute the program.

Some of the commoner phases of public relations are: news dissemination, preparation of publications, speech writing, faculty and staff relations, conduct of tours, placement of magazine articles, preparation of displays, community relations, handling of open houses, fund raising, production of radio-television programs, speaking arrangements, direction of conferences, lobbying, and production and distribution of films.

Putting on conferences and special events has appeal to special groups. The Annual Chicago Area Career Conference, co-sponsored by the Illinois Institute of Technology, interests students in attendance.







Key tool in a public relations program is good promotional literature. Here, a prospective student looks over publications received from various colleges.

After looking over such a widely diversified list of functions, it is easy to understand why it is difficult to evaluate public relations.

Because of the lack of an accepted yardstick, efforts to measure the effectiveness of public relations programs too often are aimed at the *means* rather than the *end*.

Public relations directors themselves frequently will point to the number of news releases mailed, publications issued, or speeches written as a measure of their effectiveness. Or they will boast of the number of newspaper clippings received, the attendance at special events, or the volume of responses to television programs.

All of these statistics are interesting, but do they—in themselves—really tell what you want to know? Of course not! They are merely the means to an end. The true measure of any public relations program is whether it *pays off*. What is the average college or university public relations program selling? There can be only one answer—*attendance at, support of, and interest in the institution*.

The barometer of success for any college or university public relations program, therefore, must be based primarily on the following: (1) Has the enrollment increased? (2) Have financial contributions grown? (3) Has student interest increased? (4) Have faculty and staff morale improved? (5) Has alumni interest increased? (6) Have community relations improved? (7) Have the trustees become more agreeable?

The rôle of public relations in formulating policy and carrying out activities in these areas will vary with the institution, ranging from virtually no active participation to complete responsibility. In most instances, some other cam-

pus office, such as admissions, development or alumni, has the prime responsibility for recruiting students, raising funds, or keeping the alumni contented.

Even so, public relations assists in two basic ways: by creating a favorable climate through the spread of good will, and by furnishing the necessary tools (publicity, publications, and so forth) to perform the job. It might be said, therefore, that public relations has a share in the success or failure of all these campus activities, even

though the responsibility is not immediately apparent.

But the big question is: "How much effect did public relations have on the outcome?" This, of course, is the key to the evaluation of any public relations program. If there were a way to answer the question, there would be no problem about measuring the effectiveness of public relations.

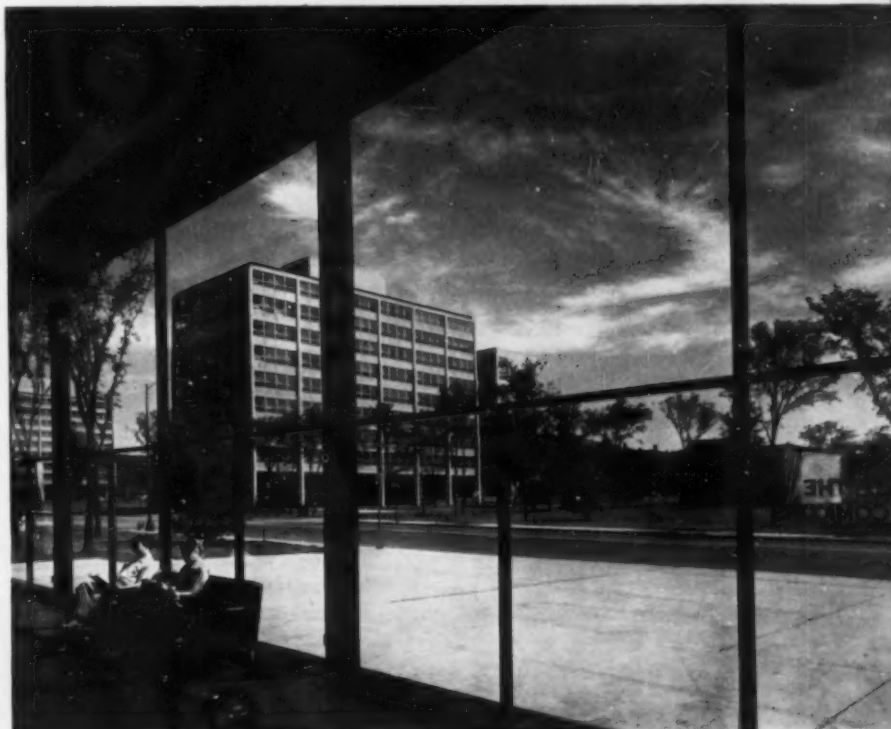
The counting of newspaper clippings, the attractiveness of promotional literature, and the number of radio-TV appearances do not really answer this basic question, although they are helpful in improving technics.

Until someone comes along and develops a scientific system, therefore, the evaluation of public relations must, by necessity, be based primarily on the success of so-called "nonpublic relations" functions, as listed earlier.

If the enrollment, financial contributions, and student and alumni interest have increased, and if faculty and staff morale and community and trustee relations have improved, it is a safe bet that the institution's public relations program has met the challenge.

But if these conditions tend to slide downhill, chances are good that the public relations program needs review.

Photographs of living quarters are of prime interest to prospective students. Typical of those being utilized by college public relations departments is this one of Illinois Tech's housing area.





Faculty and staff, undergraduate and graduate students are included in this survey of

## Family Housing Facilities

VERNON KRETSCHMER

Director of Residence Halls, University of Illinois

COLLEGES AND UNIVERSITIES ARE now faced with the likelihood that enrollments will double over the next two decades. The housing problems attending such expansion should not be solved on an emergency basis. Policies and procedures that will guide the orderly expansion of facilities should be determined now. Important among these are: What is to be the policy with regard to providing family housing for members of the faculty and staff? What is to be the policy for providing family housing for undergraduate and graduate students?

To provide background material for answers to these two questions, a questionnaire was sent to 12 large mid-western universities. The stated objectives of the questionnaire were to determine if there is any common area of agreement on the following points: (1) What principles and policies determine and guide the extent of development of family housing facilities? (2) What type of facilities should be provided for each group? (3) What type of construction should be used? (4) What will it cost and how can it be financed?

We at the University of Illinois had a selfish motive in making this survey, for we are planning to build 1000 family units for graduate and undergraduate students between now and the fall of 1962 and are formulating criteria and general specifications.

The questionnaires returned indicate that the 12 universities all have the same general philosophy with respect

to providing family housing for permanent members of faculty and staff:

1. All believe they have no obligation or responsibility to provide family housing facilities for permanent members of the faculty and staff.

2. All believe that permanent members of the faculty and staff should become members of, and integrate with, the local communities, which residence in university housing is likely to retard.

3. Most recognize an initial need to provide temporary housing for a few new members of the faculty and staff to permit them to become adjusted to the local community and find suitable private housing. A reasonable period for temporary occupancy seems to range between one and two years.

In a separate category from the permanent faculty and staff members are visiting professors and other persons on temporary appointments. Most of the reporting universities believe that they should attempt to provide some facilities for these persons.

Temporary housing for the use of permanent faculty and staff and of visiting professors and temporary appointees is provided in one or more of the following ways: (1) by the purchase of individual homes throughout the local community; (2) by the construction or purchase of apartment buildings either on or off the campus; (3) by the use of temporary family housing facilities originally intended for students; (4) by the allocation of a number of permanent housing units for married students.

Not one reporting university is planning to build permanent housing

for members of its faculty and staff. Conversely, several expressed the opinion that if the demand slackens they will reduce the number of temporary units available to faculty and staff, they will sell the university owned homes located throughout the community, and they will use permanent apartment buildings for married student housing.

In addition to providing housing on a temporary basis, one university has loaned money to faculty members for down payments on homes, and two universities make a substantial effort to provide an extensive and up-to-date listing bureau of local residential properties for sale.

### HOUSING FOR MARRIED STUDENTS

Two of the 12 universities participating in this survey are not now providing permanent family housing for undergraduate or graduate married students, nor do they plan to do so in the immediate future. They are both located in relatively large metropolitan centers with a greater segment of their students living at home. Also, because of the size of the cities, married students can be more easily absorbed in private facilities.

Further, most institutions do not differentiate in policy or practice between undergraduate and graduate married housing, so in the following analysis, the two have been combined.

*General Philosophy.* The survey clearly indicates that most universities are constructing family housing for students because: (1) The supply of existing community housing facilities of acceptable standards for families are usually not available at prices most students can afford. (2) Private build-

From a paper presented before the National Association of Physical Plant Administrators of Universities and Colleges, Madison, Wis., 1956.



## WHAT 12 LARGE MIDWESTERN UNIVERSITIES THINK ABOUT HOUSING FOR MARRIED STUDENTS

If a university were to consider the construction of married student housing on the basis of the most frequently given responses to this survey, the program would seem to be as follows:

1. The married student (undergraduate and graduate) is a permanent part of the university family, and long-range planning should be made accordingly.

2. Married student housing should be constructed by the university because adequate facilities are not available in the community and cannot be constructed by private capital at a rental that the student can pay.

3. Such housing facilities should be located near the campus on university owned land, convenient to utility connections, and with good recreational areas for children and parents.

4. Such facilities should be centralized to realize economy in construction and management.

5. The units should be two-story row type apartment buildings of semi-fireproof construction, equally divided between one-bedroom and two-bedroom units, half of each of which would be furnished.

6. The rental rates should be approximately: \$70 per month for an unfurnished one-bedroom unit; \$80 per month for an unfurnished two-bedroom unit; \$80 per month for a furnished one-bedroom unit, and \$87.50 per month for a furnished two-bedroom unit.

7. The cost per unit should be between \$9000 and \$10,000, and the project should be financed by the sale of bonds that are to be repaid over a period of from 30 to 40 years.

ers cannot provide the necessary new facilities at rates students can pay.

The survey also indicates that the extent to which family housing will be constructed will be determined by the demand resulting from: (1) the replacement of present temporary housing, and (2) the increase in enrollment.

It is generally recognized that the demand will be influenced by the rental rates. Therefore, every effort will be made to keep the rates at a low level.

*Size of Accommodations.* Most of those responding feel that one-bedroom and two-bedroom units are the most desirable, with the latter slightly preferred in a 5 to 4 ratio. Only one reply indicated a need for three-bedroom apartments, and only 10 per cent of the total number of apartments was regarded as necessary in three-bedroom units. Three replies indicated a need for no bedroom apartments, two stating 20 per cent of the total and one 15 per cent.

A further analysis shows that, of the institutions reporting, two would construct all two-bedroom apartments; five would divide equally between one-bedroom and two-bedroom apartments, and two would build more one-bedroom apartments than two-bedroom apartments.

*Furnished or Unfurnished Accommodations.* Opinion is rather evenly divided. Three believe that all facilities should be unfurnished; three believe that all facilities should be furnished; three believe that there should be both furnished and unfurnished units; one institution states that the undergraduate apartments should be unfurnished and the graduate apartments furnished.

The two universities that have constructed the largest number of such units indicate a preference for furnished apartments.

*Accommodations in Square Feet.* The recommended square footage per apartment is as follows:

Bedrooms	Total Sq. Ft. of Apt.	Univ.
3	700 to 750	1
2	551 to 600	4
	601 to 650	2
	651 to 700	1
	701 to 800	1
1	451 to 500	3
	501 to 550	2
	551 to 600	1
0	351 to 400	1
	451 to 500	1

*Location of Facilities.* Another survey question asked that criteria for the location of married student housing be listed in order of importance. The answers are divided into two categories: (1) those that are important from the tenant's point of view; (2) those that are important from the university's point of view.

From the standpoint of the tenant, the following three factors are felt to be most important: availability of transportation to and from the campus; proximity to the campus; availability of good recreation areas for children and parents.

Other criteria considered important are the convenient location of school facilities and shopping centers, and a proper ratio of land area to buildings to give the feeling of a suburban development.

From the standpoint of the university, the following are considered most important: (1) availability of univer-

sity land; (2) cost of utility connections; (3) cost of site development, and (4) sufficient area to permit a large group of units around a central focal point to keep maintenance and management costs at a minimum.

*Standard of Construction.* Most reporting universities would prefer, if they could finance such construction, a completely fireproof structure of reinforced concrete with brick exterior, or a wall bearing brick building. One university is constructing reinforced concrete buildings with brick exterior and using glazed tile walls in public areas and lightweight aggregate block partitions.

However, the majority of those favoring a two-story apartment row type of building feel the cost of completely fireproof construction is prohibitive and are willing to accept a semi-fireproof structure. The specifications generally agreed upon are: concrete slab, wood frame, brick exterior, plastered walls, and asphalt tile floor.

One reporting university is using dry-wall partitions, and another is experimenting with such wall construction. One university is carpeting the entire apartments, believing that it reduces sound transmission and adds to the appearance without presenting any maintenance problems. One is using double interior walls of rock lath to reduce sound transmission.

*Cost per Unit and per Square Foot.* Because of the varying size of units, the ratio of no bedrooms and one-bedroom and two-bedroom units in the project, and varying construction costs experienced in different localities, it is difficult to arrive at a meaningful comparison of cost per unit. The low-



est reported construction cost was \$7000 per unit; the highest, \$12,000. The cost per square foot varied from \$10.50 to \$17.50.

The survey indicates that the two-story apartment row type of facility would cost, furnished but excluding land, between \$8500 and \$11,000 per unit, depending upon construction costs of the locality and the selection and use of materials.

**Rental Rates.** All except two of the universities surveyed provide utilities in the rental rates charged for married student housing. In addition to utilities (electricity, gas and water), the services normally provided include: garbage and trash removal, playground facilities, parking facilities, and in three instances coin operated laundry facilities.

The following is the range of rates for the various size of units. (In the case of the two universities not including utilities, their rates have been adjusted to include this item.)

1. Unfurnished units including utilities and other normal services: (a) two-bedroom units from \$70 to \$85 per month; (b) one-bedroom units from \$60 to \$75 per month; (c) no-bedroom units at \$60 per month.

2. Furnished units including utilities and other normal services: (a) two-bedroom units from \$75 to \$100 per month; (b) one-bedroom units from \$69.50 to \$90 per month; (c) no-bedroom units at \$70 per month.

One university reports: "We were fearful that students would not accept an apartment that was double the rent they had been paying in barracks apartments. However, the value was so much greater that we now have a longer waiting list for the permanent facilities than for barracks apartments."

**Financing.** The opinion is generally expressed that housing facilities provided for married students should be self-supporting, including the retirement of debt, the interest, and all costs of operation. However, many of the

operations are being aided by the university in one or more of the following ways:

1. In all cases, there is agreement that the university should provide the land.

2. In some instances, the cost of site development and utility connections are paid from general university funds.

3. Several mentioned that funds are available from other housing operations of the university.

4. In three instances, utilities are provided to the resident by the university without cost.

In no instance were capital appropriations given from the state, nor were subscriptions mentioned as a source of funds for construction of married student housing. The general opinion is that the facilities should be financed over a period of from 30 to 40 years through the sale of bonds to the federal government under the College Loan Program, to an insurance company, or on the open market.

## ***Are State Scholarships an Answer to Increasing Demand for Higher Education?***

**T. E. BLACKWELL**

*Educational Management Consultant, Washington University, St. Louis*

THE LONG PREDICTED TIDAL WAVE OF students seeking higher education is almost upon us. We are all familiar with the magnitude of the impending problem. Requests for appropriations for new buildings at our tax supported institutions have begun to give grave concern to many state legislators. Yet we know that many of the smaller colleges could accept additional students with almost no expansion of existing facilities.

With this fact in mind, Mervine V. Bedford, a senator in the Nebraska legislature, drafted a bill for the establishment of a state scholarship system. His bill would provide for 500 scholarships each year, permitting the recipients to attend the college or university of their own choice. He requested a ruling from the attorney general of the

state, Clarence S. Beck, on the constitutionality of the proposed legislation. The ruling was submitted under date of Jan. 12, 1957.

### **HOW CONSTITUTION READS**

The pertinent section<sup>1</sup> of the Nebraska constitution reads as follows:

"Neither the state legislature nor any county, city, or other public corporation shall ever make any appropriation from any public fund, or grant any public land in aid of any sectarian or denominational institution, school or college, or any educational institution which is not exclusively owned or controlled by the state or a governmental subdivision thereof."

In his ruling the attorney general states that the courts of Nebraska have

<sup>1</sup>Section 11, Article VII.

not, as yet, been called upon to construe this section of the state constitution. In the absence of decided cases, he makes use of a procedure frequently employed by judges and other jurists. He turns to the recorded proceedings<sup>2</sup> of the constitutional convention at which the document in question was drafted in order to ascertain the intention of the members. The record shows that the committee on education originally adopted the attitude that such aid should be denied any educational institution that was not "exclusively controlled by the state" and omitted the word "owned" from the draft.

A motion was offered by Mr. Peterson that this be amended to read

<sup>2</sup>Proceedings of the Constitutional Convention of 1919-20. Vol. II.



as it presently appears in the constitution. He stated his position as follows (page 2.661):

"As far as I am personally concerned, I desire to have the constitution prohibit any state aid under any guise to any educational institution other than the public school. It is not a difficult matter, if the legislature sees fit, to find an excuse in the interest of general welfare, to make donations under the guise of military training or normal training or what not in a private institution . . . I am opposed to that principle . . ."

After debate, the amendment proposed by Mr. Peterson was adopted. Attorney General Beck therefore concludes:

"It seems clear from reading the debates pertaining to this section of the constitution that the members of the convention did not want aid extended to private or sectarian schools under any guise."

In further support of his opinion that the legislation proposed by Senator Bedford would be unconstitutional, the attorney general cites two cases from other jurisdictions, one from South Dakota and the other from Virginia.

In 1887 the board of education of the territory of Dakota, in accordance with power conferred upon it by statute,<sup>3</sup> entered into a contract with the Presbyterian Synod of Dakota for a program of teacher training at Pierre University, an institution under the synod's management and contract. In 1890 the state auditor refused to pay the vouchers for the tuition of the trainees on the grounds that the state constitution<sup>4</sup> prohibited the appropriation of any state funds "for the benefit of" or "to aid" any private or sectarian institution.

The attorney for the synod contended that the sum due the university would not be a contribution by the state but would merely pay for service rendered. Judge Corson of the supreme court of South Dakota<sup>5</sup> rejected this argument as follows:

"This contention, while plausible, is, we think, unsound, and leads to absurd results. If the state can pay for 25 students, why may it not maintain at the institution all that the institution can accommodate, and thereby support the institution entirely by state funds."

<sup>3</sup>Sections 1840-1845, Comp. Laws.

<sup>4</sup>Section 3, Article 6; Section 16, Article 8.

<sup>5</sup>*Synod of Dakota v. State*, 50 N.W. 632 (1891).

The judge, in support of his opinion, cited a Nevada<sup>6</sup> and an Illinois<sup>7</sup> case. The Virginia<sup>8</sup> case, cited by Attorney General Beck in his ruling, was decided in 1955. It involved the constitutionality of an act of the legislature establishing state scholarships for the orphans of veterans. The recipients were free to select any educational in-



stitution in Virginia. Justice Eggleston stated the opinion of his court as follows:

"To sustain the validity of Item 210, insofar as it proposes to authorize payments for tuition . . . of eligible children who attend private schools, in the face of the constitutional provisions<sup>9</sup> which we have discussed, would mean that, by like appropriations, the general assembly might divert public funds to the support of a system of private schools which the constitution now forbids. If that be a desirable end, it should be accomplished by amending the constitution. It should not be done by judicial legislation."

Despite the reluctance of some states to permit a system of state scholarships, such a plan has been in successful operation for many years in New York. In 1872, the legislature provided for the selection of "the best scholar from each academy and each public school" in the state as a candidate for a free scholarship at Cornell University. A statute of 1913 established five state scholarships in each assembly district, to be awarded annually. The scholarship could be utilized in any college approved by the regents of the University of the State of New York.

The New Jersey legislature utilized federal land-grant funds to establish an agricultural college at Rutgers University in 1864. In 1888 a system of state scholarships was established at the agricultural college. For 10 years

<sup>6</sup>*State v. Hallock*, 16 Nev. 373.

<sup>7</sup>*Cook County v. Industrial School*, 18 N.E. 183.

<sup>8</sup>*Almond v. Day*, 89 S.E. 2d. 851 (1955).

<sup>9</sup>Section 141, Constitution of Virginia, as amended in 1952.

the state auditor refused to pay the scholarship vouchers on the ground that such payments would, in effect, represent a gift to a private corporation and hence be contrary to the provisions of the state constitution. A commission was appointed to review the problem. The commissioners recommended that the state pay Rutgers only \$80,000 instead of the \$133,100 billed for the education of the state scholars. The auditor still declined to honor the voucher. The supreme court of New Jersey ordered payment<sup>10</sup> on the grounds that, although Rutgers was privately controlled, the state had been given a large measure of control over its college of agriculture.

For a number of years Pennsylvania maintained state scholarships at the University of Pennsylvania. This institution, despite the implications of its name, is endowed and privately controlled.

You will recall that, in the cases discussed, the courts have assumed that an educational institution receives some financial benefit from the receipt of tuition and that the payment of tuition by the state for its scholars is, in effect, financial support of the institution and hence contrary to constitutional prohibitions. One method of avoiding this result would be to limit the payment by the state to the demonstrated incremental cost of educating the state scholars. This procedure was successfully employed by Wisconsin. Its legislature, in 1919, provided for a system of state scholarships for World War I veterans, to be utilized at any nonprofit high school or college approved by the state board of education. The statute provided for the payment, not of the customary tuition, but only "the actual increased cost of operation in excess of the costs of the institution if such legislation had not been passed."

Despite a constitutional prohibition of state aid to privately controlled schools, the legislation was upheld. In his opinion,<sup>11</sup> Justice Vinje made this statement:

"The contention that financial benefit accrues to religious schools from the act is untenable. Only actual increased cost to schools occasioned by the attendance of beneficiaries is to be reimbursed. They are not enriched by the service they render. More reimbursement is not aid."

<sup>10</sup>*Trustees of Rutgers College v. Morgan*, 57 A. 250 (1904).

<sup>11</sup>*State v. Johnson*, 176, N.W. 224 (1920).



# Trends in College Architecture

Our new-found interest in longer-range planning and visual delight must not be swept aside in the sheer necessity of additional space, space almost anywhere as long as it is cheap

**R. B. O'CONNOR**

*R. B. O'Connor and W. F. Kilham Jr., Architects, New York*

PERHAPS NO CATEGORY OF ARCHITECTURAL work, by its magnitude, permanence and impact on our future leaders at an impressionable period of their growth, can have a greater influence on the esthetic quality of our society than the physical aspect of our educational experience. That something has been lacking in this regard, as well as in our educational goals, is all too evident in the increasing tawdriness and disorder of our environment.

There is a newborn and encouraging trend toward considerations of order and beauty in the design of our public schools which, in time, will

have a leavening effect upon popular taste. The same trend is evident in recent college architecture. Here, however, the mass and permanence of our inheritance, which can be such a factor for the good, is in most cases a retarding factor. Few higher institutions in recent years have started from scratch, and the long period when expediency and the whims of benefactors were principal guides to campus development has left some imposing monuments to shortsightedness and vanity among us.

The great challenge we now face is whether our new-found interest in

longer-range planning and visual delight will be swept aside in the sheer necessity for additional space—space almost anywhere as long as it is cheap. The veterans' villages of 10 years ago still plague us. Nothing seems more permanent than the obviously temporary, and few things can be more expensive in relation to their original cost.

I am not so optimistic as to believe that we can avoid more "temporary" construction in the building bulge ahead, but I have two earnest pleas to make. One is that the location of temporary buildings be such as to

CONTRAST IN PHILOSOPHY is monasticism and medieval tradition of Ralph Adams Cram's design for Princeton Graduate College in 1913 (left) and Walter Gropius' approach to Harvard Graduate Center in 1950 (below).







**SEARCH FOR LOGIC AND ORDER:** New effort toward integration in learning process is paralleled by search for logic and order in relationship of buildings, such as at Drake University (left) and Illinois Tech (right).

permit the proper placement of permanent structures in accordance with a long-range plan. The other is that every possible effort be made to amortize these temporary buildings in the shortest feasible time so that they may be removed and the money put toward their longer lived successors.

#### ARCHITECTURE AND PHILOSOPHY

Campus architecture reflects the prevailing philosophy of the periods through which it has passed. Professor Bush-Brown of Harvard has made a fascinating study\* of the contrasting philosophy underlying Ralph Adams Cram's design for the Princeton Graduate College in 1913 with that of Walter Gropius in approaching the very similar problem of the Harvard Graduate Center in 1950.

In the case of both architects there is much written documentation of just why they designed these structures as they did, the one redolent of monasticism and the medieval tradition, the other streamlined to the intellectual and scientific currents of the mid-Twentieth Century.

#### CRAM AND GROPIUS

Cram believed that the function of the architect is to "sway men's minds and exalt their spiritual consciousness

From an address before the ninth annual meeting of the Connecticut Council on Higher Education held at the U.S. Coast Guard Academy in New London, Conn., 1956.

\*Cram and Gropius, published in *New England Quarterly*, Vol. XXV, No. 1, March 1952.

by means of the subtle influence of solemn architecture," and for him "the liberal arts of age-long human culture have nothing to do with the current 75 year old technological civilization." Consequently the English Gothic style chosen for the Graduate College "declared its spiritual and intellectual lineage through its architectural vesture" and returned to "our own racial style that was developed while we were yet consistent Christians." Gropius, in writing of the Graduate Center in the *Harvard Alumni Bulletin*, says: "How can we expect our students to become bold and fearless in thought and action if we encase them in sentimental shrines feigning a culture which has long since disappeared."

The new effort toward integration in the learning process is paralleled by the search for logic and order in the relationship of college buildings. This is more apparent at institutions where a large part of the plant is being built anew as at Drake University or the Illinois Institute of Technology, but it is also to be seen at older universities like Princeton where the various research activities in applied science have been associated in a new grouping at the Forrestal Centre, at some distance from the main campus, and where even the older departments have been undergoing exhaustive study with the idea of relocating some of them so that the overall expansion now imminent can be effected without detriment to the logic and convenience of interrelationship.

There are obvious problems in the long-time growth of college plants. Even aside from the tendency to follow expediency, which almost inevitably leads to trouble sooner or later, the unevenness in the development of different departments and the abrupt emergence of new fields of knowledge, such as those associated with electronics or nuclear science, can shift the center of gravity of the campus in unpredictable and highly upsetting ways. This makes the sort of plan that was drawn up for so many universities in the period shortly before and following 1900 difficult to adjust, especially where, like Columbia University, they were set in the midst of cities and where additional land around them has become almost unprocureable.

#### PROBLEMS OF LONG-RANGE PLANNING

Few institutions are really free of the problem of land acquisition, and current planning attempts to provide a flexibility that will give some latitude in this regard to meet sudden opportunities for purchase. But this flexibility is important to permit changes in academic policy as well as in size.

There is an almost fundamental contradiction between planning which provides for simple and clear-cut lines of development with each step neatly taken care of years in advance and that which permits unexpected growth at well-nigh any spot to an indeterminate extent. Accordingly, to attempt to retain clarity and logic under the latter conditions is to demand a





THE CHAPEL is once again beginning to take its place in college life. M.I.T.'s circular chapel can be seen behind the new auditorium.

high level of imagination and skill. If carried to the extreme, it is doubtful whether any plan can be perfect under such variable and utterly unforeseeable circumstances but it is worth while that the effort is now being made, and this is perhaps as important a fact as any among the current trends in college architecture.

#### APPROACH OF STATIC COMPOSITION

The problem has been tackled from two angles. At Illinois Institute of Technology, Mies van der Rohe has had the advantage of a nearly level site in the midst of a Chicago slum so that accidents of terrain are non-existent and land acquisition is less onerous than usual.

Mr. van der Rohe's austere and measured scheme is based on a very rigid pattern, indeed more rigid than many of the older colleges, but he has attempted to provide flexibility by adherence to a uniform modular grid to which all buildings conform as well as all spaces between the buildings. In theory, therefore, buildings can be changed in shape and size as they develop so long as they follow the 4 foot module.

Similarly, the interior of each Illinois Tech building has the widest feasible spans and a minimum of fixed obstruction in the form of utilities so as to adapt it to widely varying arrangement and use. The whole as well as the parts is studied down to a magnificent simplicity of which the intellectual impact is tremendous. Nothing is left to chance and the emotional

effect of the unexpected is rigorously excluded. The question which inevitably arises in any composition of such calculated perfection is whether the unexpected can ever really be ruled out, and what its intrusion would do to proportions so delicately balanced. The comment of Dean Hudnut some years ago seems opposite:

"If precedent is a guide in these matters the Illinois Institute of Technology will never inhabit more than a part of the crystal home which is prepared for it, each element of which depends so much on its relevance to its neighbors and to the space these organize. Some new Gothic Revival will upset this quiet synthesis; some masqueraders from a more boisterous camp of modernists will join this 'ballet mechanistic.' Such has been the fate of all architectural Edens."

#### APPROACH BY BALANCED MOVEMENT

A less pedantic and perhaps more promising approach to this difficult problem accepts the likelihood of Dean Hudnut's "boisterous" interruption and endeavors to maintain cohesion and clarity rather by balanced movement, as it were, than by static composition. With this type of plan incidents of terrain and uneven growth are likely to cause less disturbance, for it is based largely on the functional relationship of major areas, such as administrative, instructional, assembly, residential, and athletic, rather than on the counterpoint of buildings, which can then be employed to whatever extent ingenuity and talent may suggest

within each area without the logic of the over-all scheme being affected.

Certain buildings, by their size, function or symbolic importance, will usually establish principal foci of any campus plan, though here again the emphasis changes with changing philosophy. The chapel tower of the early English quadrangles largely disappeared with the Seventeenth Century advent of the dissenting colleges, like Worcester at Oxford. These, in turn, strongly influenced our first American institutions where the various functions were often housed, as in the Wren Building at William and Mary, in one symmetrical structure—the chapel in one wing, the refectory in another.

#### THE CHAPEL

Once again today the chapel is beginning to take its place in college life though at a number of institutions, as at M.I.T. and Illinois Tech, its function seems as yet to consist of a furtive bow to something beyond the present range of scientific analysis rather than to provide the center of the students' spiritual life. At other institutions, particularly those with a religious background, the chapel has continued to hold the place of honor even when its use has been largely restricted to commencement or other special convocations.

#### THE LIBRARY

When Thomas Jefferson set his library at the head of the lawn at Virginia, he made affirmation of his faith in the supremacy of human reason, a faith which may not always have appeared justified in the intervening period but which nevertheless springs eternally in the human breast. One of the most striking trends of the last 10 years has been the renewed emphasis upon the library as the cornerstone of the curriculum. Whereas the stadium had come to be the symbol of the successful college in the Twenties, the library seems now to have taken its place, aided maybe by the inroads of television and professional football upon the week-end diversions of the American public.

Strangely enough, radio and television are having an opposite effect upon the library because provisions for the various kinds of broadcasts are some of the newest facilities now being incorporated in their design. With this has arisen the demand in some instances for broadcasting from



the library with its concomitants, the campus radio station and an extensive audio-visual center complete with projection rooms and auditoriums. While the request for these is quite understandable when a new building of the importance of a library is being planned on a campus which has theretofore lacked these new tools of learning, the effect upon the more fundamental needs of the library and upon its budget can be serious indeed.

Nevertheless, there have been and will continue to be rather sharp breaks from the traditions of the past in the design of new university libraries. Almost without exception these are planned for open-stack operation and the maximum ease of access to all its resources by students as well as by faculty. Seating runs from a third to a half of the total student and faculty population as against a sixth to a tenth in many of the older buildings.

The need for such expansion is of course implicit in the growing demands for individual initiative in undergraduate courses, but the enthusiastic acceptance of the facilities now incorporated in the newer libraries is indicated by the phenomenal rise in their use. Several with which we are familiar have run their attendance figures up sixfold or eightfold upon the inauguration of new buildings. The Princeton Library with seating for 1800, which was opened in September 1948, virtually from the start attracted about 3800 a day, equivalent to the entire undergraduate and graduate enrollment plus about half the faculty. Today, with a somewhat smaller enrollment, the daily attendance is about 5000.

So popular indeed has the library become that the demand for more and more space is everywhere evident. Student carrels and faculty studies are both insistently asked for, and seminars are a "must." There is the strongest kind of argument for seminars in the humanities and social sciences where small groups can meet amid the relevant books away from the usual classroom distractions. The trouble is that all departments have the same urgent need which is presented by department heads with the most incontrovertible logic.

At Firestone Library the original program called for more than 90 seminars. Cost studies shortly proved that this would be impossible, and the departments were asked to cut their needs to the bone. After a period of

soul-searching the new requests were submitted. The total had been cut to 83! Then began a series of meetings with each of the 30 department heads. The type of use was divided into two categories, one scheduled merely by class hours for all departments and the other assigned more or less permanently for the use of graduate students by departmental or divisional groups. Eventually the total boiled down to 30 rooms and that number has served the university needs with apparent success for the last eight years.

We have found it important to tie instructional programs to a definite schedule of classroom use. It is extraordinary how often existing facilities fail to accord with current needs and how often facilities that do exist are inefficiently utilized. The trend during the past generation to smaller class groups has left many institutions with a surplus of large lecture rooms. As a result, the planners find that considerable expansion is sometimes possible either by subdividing these large halls or by adding only the smaller, more efficient units at considerably less cost than a proportionate square-foot-per-student increase would require based on previous standards.

#### COLLEGE UNION

A curious result of intensified library use that has followed the construction of new buildings is the drop in circulation figures for a while after the new unit opens. What evidently hap-

pens is that students and faculty alike use books *in* rather than *out* of the library. This has unexpected effects upon the design of residence halls because the space formerly required for study is now often unused in student rooms except for the writing of an occasional letter—an occupation of sufficient rarity in my experience hardly to justify a desk! Furthermore, as the area of dormitory rooms has contracted the pressure for social assembly places has increased, always, be it noted, with snack bars attached. Thus the college union is beginning to assume an importance in eastern colleges that it has held for considerably longer in the West.

It is my belief that this trend will be greatly accentuated in the decade ahead. The percentage of fraternity members to total enrollment seems to be declining, in part because of the deferment of rushing at many institutions. The social facilities that fraternities offered have not been available for a large number of students and the union has filled the gap.

The reduction in size of living accommodations has also played its part, as just noted. In my undergraduate days almost all residence halls had suites of a living room and one or two bedrooms, so that we frequently gathered from six to a dozen in any of our friends' living rooms. Today, getting four together in one bedroom-sitting room is a feat. The likely increase in nonresident students as

THE LIBRARY requires more and more space. At Firestone Memorial Library, Princeton, pleas for student carrels, faculty studies, and seminar rooms brought cost estimates so high that compromises had to be made.





enrollments grow is also a factor, for these commuters need a place to go between classes, and the library or the union usually supplies it.

The union is often the home for the innumerable campus activities that have grown greatly in number and popularity as major sports attract a smaller and smaller percentage of the undergraduate body. The various departmental clubs, college publications, and undergraduate governing bodies all want permanent quarters in this building.

#### **BUILDINGS FOR THE FINE ARTS**

Indicative of the changing economic climate in this country is the gradual growth of interest in the arts, and few institutions of higher education these days do not have or are not developing departments of fine arts. Sooner or later the demand for separate facilities arises and the popular appeal of this source of enrichment for leisure time is so great that funds for a fine arts building are usually among the easiest to raise. The dual factors of a desire for public presentation on the part of the students as the accepted capstone of their efforts, whether in art or music or drama, and the interest of the community in personal contact with such activities tends to make them one of the most sought-after as well as one of the most effective links between the college and the public.

The location of a building for the fine arts, because of its popular attraction, is often difficult. It is likely to bring crowds of automobiles to the campus. When the college or university is located in an urban area access from transportation lines is especially important. Fortunately, the hours at which major gatherings at the fine arts building are likely to take place can be adjusted to some extent to counterbalance heavy parking for other purposes, so that common parking fields can be used with a higher degree of efficiency if they can be located for this multiple type of use.

#### **PARKING AREAS**

But whatever may be the outcome of the particular problem, the handling of cars is becoming one of the most serious points in the entire range of campus planning. Pressures from students to have cars at college is heavy enough even from those in dormitory residence, but as the number

of commuters rises, as it seems bound to do in major proportions in the coming decade, the failure to provide for their parking needs will almost certainly arouse the most violent objection from public authorities and the surrounding neighborhood. It is not an easy matter to resolve inasmuch as every car takes about 300 square feet of paved area; in other words, an acre of relatively flat land will accommodate about 140 cars. When the ground is not flat, the efficiency drops off rapidly and the difficulty and cost increase.

Nor is this the full story, because those with cars seem to develop a little demon inside them that makes them insist on having a parking space immediately alongside of each building they enter. To walk a hundred yards from a car to a building is inhuman, and if the weather is inclement it becomes a deliberate personal insult. And this is not a reaction peculiar to undergraduates but spreads throughout the academic community from president to porter.

#### **HOUSING FOR MARRIED STUDENTS**

One last point in the changing campus scene. Colleges are beginning to seek a permanent solution to the housing of married students. Fortunately, apartments for married students are of a type that is generally in high demand in any community for normal rental, and so these housing units can be erected on a commercial basis, and ordinary building loans or loans under the College Housing Loan Program of the Housing and Home Finance Agency may be obtained to finance them.

While it seems desirable that these apartments be convenient to the academic buildings, they should, it seems to me, be treated as an intermediate type of college structure which could fulfill its function in the outside market if need be and thus should not impair freedom of planning in the inner areas of the campus.

Some institutions, like Union College at Barbourville, Ky., have constructed housing on parts of the campus adjacent to main highways, where unused apartments can be rented to outsiders or even serve as motel accommodations for transients. The latter would seem to require a somewhat different type of supervision from that of permanent residences, but it indicates the flexibility with which this type of adjunct may be handled.

With all the road-blocks there are to maintaining a clear and logical plan throughout the normal exigencies of academic growth, it may seem optimistic in the extreme to urge this policy upon colleges at this juncture, when nothing is likely to be normal for many years to come. I do so, nevertheless, on the ground that, unless the best and most farsighted consideration is given to this supremely difficult problem, expediency will almost certainly cause still worse calamities.

#### **MAINTAINING LOGICAL PLAN**

In the day, half a century ago, when great schemes were the vogue in city planning, in world fairs, and elsewhere, so-called master plans were drawn for many universities. They were filled with the assurance that their imposing axes and grandiose vistas would survive the ravages of time, while a possible change in philosophy or need was hardly given consideration. Far too many of these handsome plans have been discarded precisely for their undeviating rigidity, which is unfortunate because a crack in a monumental work of art is far more difficult to repair than in less pretentious craftsmanship. Today the "master plan" is more likely to be a "pilot plan," which attempts less but is more pliable under stress.

Why, may we ask, is a long-range plan of such importance. It does, it is true, tend to minimize interferences and back-treading, which means worthwhile economy and efficiency in the long run. But the more impelling reason is that the physical surroundings in which we live and work, and I hope dream, influence us in myriad ways beyond our knowing. As Sir Winston Churchill said in a famous speech on the reconstruction of the House of Commons during the War: "We shape our buildings but they in turn shape us."

Just as in teaching, where the character and integrity of the teacher is more pervasive and endures long after anything he says, so the subconscious influences of beauty and order, of harmony and serenity, of light and shade, and perhaps of unself-conscious surprise, cling in the memory of those who pass to and fro during the four years of undergraduate life and somehow give them the conviction that those qualities are normative even in the uncharted reaches of a new and puzzling technological civilization.



Standard aluminum subway grating supported on structural aluminum tees and angles creates not only a sunshade that stops direct sunrays and permits light transparency through the windows but also forms window washing platform.

TEMPLE UNIVERSITY'S COMPLETELY air conditioned Curtis Hall, completed and dedicated last year, has been defined by Wallace P. Wetzel, director of Temple's physical plant, as a general classroom building. It is a structure that serves all departments of the university. Its 50 classrooms, capable of accommodating more than 2000 students, have been designed to cater to no single group, but rather to fill that unspecialized need common to all segments of university teaching, the general classroom.

Temple, an urban school, is situated in a highly populated section of Philadelphia. As such, land costs are high. This, in a sense, was a controlling factor in the design of Curtis Hall. Given the site then available for university expansion, specifically a piece of land 207 feet by 103 feet, the program requirements of 50 classrooms in a structure not to exceed four stories in height, the end result is a straightforward solution arrived at by the use of the latest building materials and technical information available.

The building is a reinforced concrete structure, four floors in height, with the ground floor partially in grade. The dominant exterior materials are a gray-tan Manganese spot brick and aluminum. Accents of greenstone were used on the stair towers.

Aside from the double-hung windows, louvers, gravel stops, and penthouse facing, perhaps the most striking use of aluminum is in the sunshades and window washing platforms. Standard aluminum subway grating supported on structural aluminum tees and angles has created a sunshade that stops direct sunrays but permits light transparency through to the windows, without forming hot air pockets under

the shades. The air conditioning load has been reduced approximately 10 per cent by the application of these sunshades.

Four classrooms exceed the standard dimensions of 23 by 24 feet, these being double this dimension in length.

In all other aspects, the classrooms are identical. Wall surfaces are painted concrete block, color-schemed in coordination with the varied colored glass chalkboard in aluminum trim, used front and rear in each room. Acoustical tile has been applied to the concrete

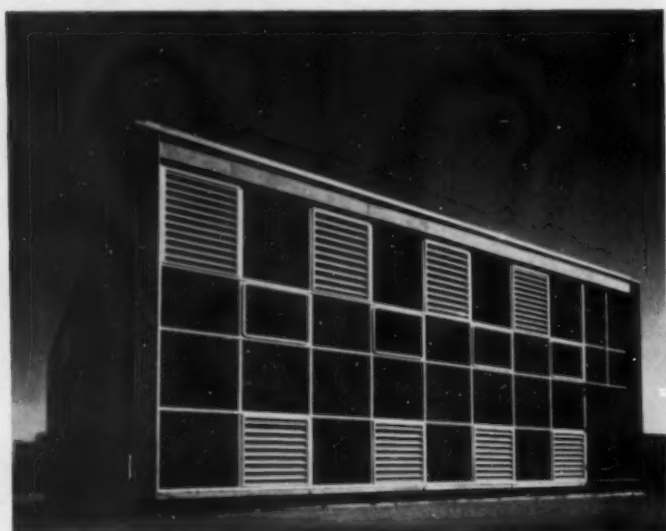
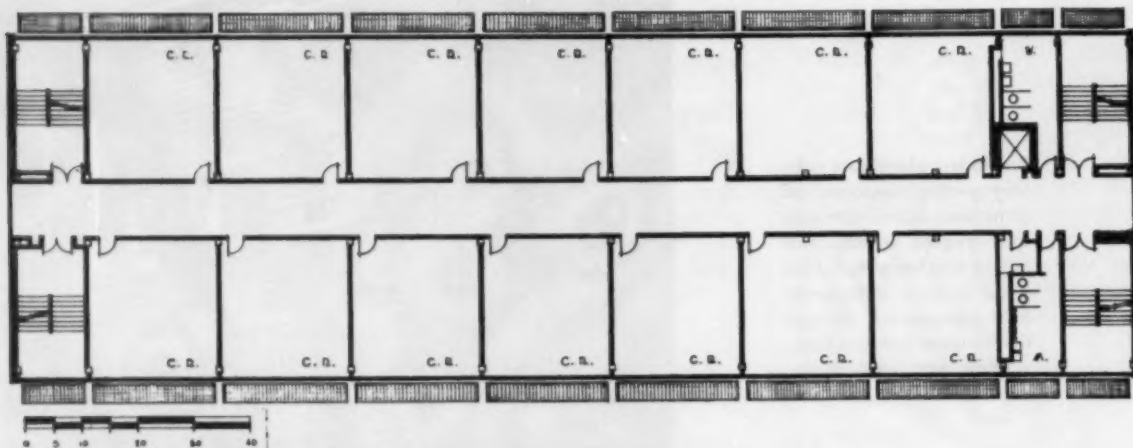


## ***Comfortable Classrooms All the Year Through***

**VICTOR H. KUSCH**

*Nolen and Swinburne, Architects, Philadelphia*





Above: Typical floor plan of Temple University's Curtis Hall. All but four of the classrooms are 23 by 24 feet; these four are just double this dimension in length. Left: Rear view of the building. Below: Penthouse on the four-story classroom building houses heating and air conditioning equipment. Opposite Page: This view of Curtis Hall shows the ground floor partially in grade.







ceiling slab of all teaching areas. Floors are asphalt tile, as they are throughout the building; lighting is fluorescent.

Corridor walls are glazed structural tile, different colors being used on opposite walls. Flush incandescent lighting is incorporated in the mechanically suspended acoustical ceiling. Ducts for the air conditioning run behind this suspension system, which, in turn, is not scribed to the walls, but held 6 inches away to allow neatness of installation and accessibility to piping and valves.

Curtis Hall is a completely air conditioned college building. Classes are scheduled from 8 a.m. to 10 p.m. on a year-round schedule, summer included. The mechanical equipment for this measure, coupled with a complete heating plant, was estimated to require 3500 square feet. This area could not

be sacrificed on the teaching floors and a subbasement was ruled out because of expense and inaccessibility. The decision to locate this heating and air conditioning equipment in the penthouse has been successful and interesting.

Nolen and Swinburne, the architects, employed H. V. Munchhausen, acoustical consultant, to advise on the handling of sound transmission control to the classrooms directly below the penthouse. The entire floor of the penthouse slab is floating on 3 inches of glass fiber, compressed to approximately  $\frac{3}{8}$  inch. All piping and mechanical lines that pierce the slab and the roof deck pass through flexible connections. Floor drains and rain water conductors are isolated.

To date, the installation has been very successful, a requirement force-

fully set forth by Temple University when approval of the penthouse on the roof was obtained by the architects.

The hot water sill line radiation used throughout is tempered by the use of the conditioning system during the heating season.

Temple University's Curtis Hall is a first step in an over-all expansion program, a program that has been developed in complete coordination with the university, the Philadelphia City Planning Commission, and the architects, Nolen and Swinburne. As one of the few completely air conditioned classroom buildings in this part of the country, it gives Temple University a building that is usable and comfortable 100 per cent of the time.

The final contract price was \$797,800, which was \$15 per square foot and \$1.31 per cubic foot.



# Picking the Right Paint

## for exterior wood surfaces

**DON E. LAUGHNAN**

*Forest Products Laboratory, Madison, Wis.*

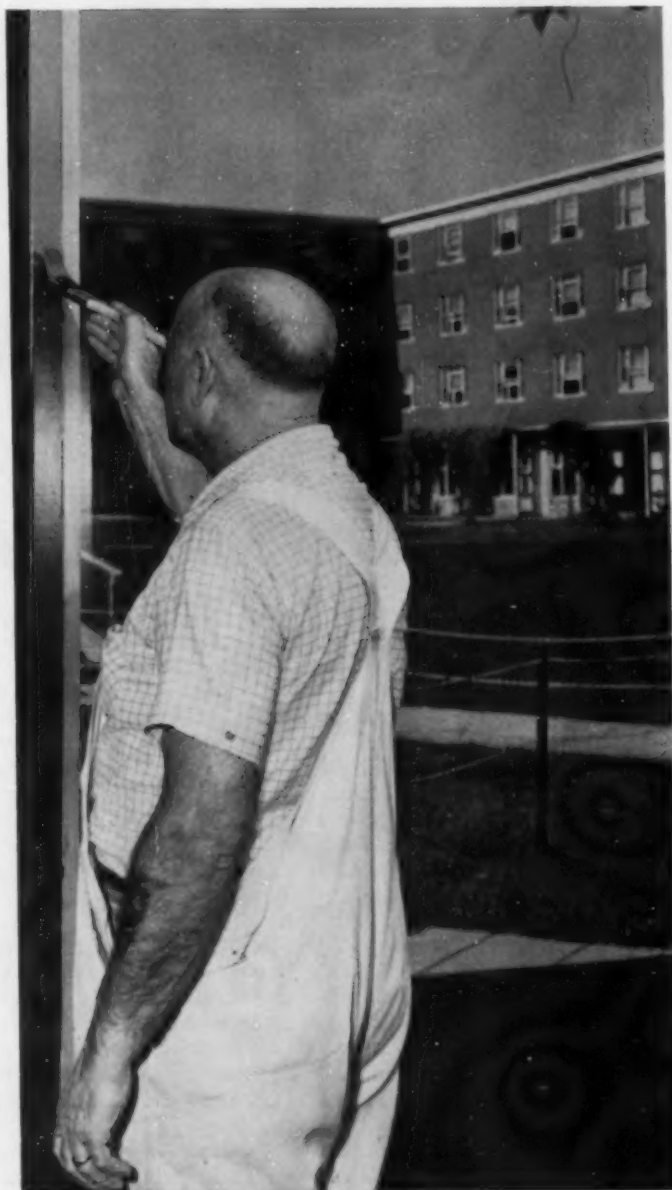
EXTERIOR WOOD PARTS OF BUILDINGS are painted primarily for the purpose of decoration—to change, enhance or improve the natural appearance of wood. Of course, paint also provides some protection for the wood. To understand the nature and the extent of this protection, we must know something of what happens to wood that is exposed out of doors.

Wood exposed to the elements may be subject to one of two deteriorating influences—weathering or decay. Either of these actions, if permitted, will finally cause complete disintegration of wood.

Weathering of wood is due partly to physical and partly to chemical changes in the wood. The physical changes are the result of the repeated unequal swelling and shrinking that accompany wetting and drying of the exposed wood surface. These changes occur with the ever-changing humidity of the atmosphere and, of course, with rain and sunshine.

The surface layers of wood respond quickly to these changes, but the inner portion of the wood lags behind because of the relatively slow rate of transfusion of moisture in wood. This lag tends to keep the interior at a relatively uniform moisture content and a constant volume, so that when the outside wood fibers swell and shrink they are alternately squeezed together and pulled apart.

Chemical changes result from the action of sunlight, air and water on the surface layers of the wood. A gray layer develops on the exposed surface. Both cellulose and lignin become partly solubilized and leached from this layer



From a paper presented at the National Association of Physical Plant Administrators, Madison, Wis., 1956.



**The user of paint brings some troubles upon himself. He can avoid these difficulties if he will inform himself. No one type of paint has all desirable characteristics, so it's necessary to select the right paint for a particular job.**

and from the brown layer immediately underlying the gray layer.

The combination of physical and chemical changes results in a slow breaking down and wearing away of the surface fibers and more noticeably in grain raising, checking, cracking, splitting, cupping, warping and pulling at fastenings. In addition, it results in the wearing away of wood from the surface at the rate of about  $\frac{1}{4}$  inch in a century.

Decay, on the other hand, is caused by the action of wood destroying fungi—small living organisms that actually feed on the wood substance. The visible effect is familiar to everyone as "rotten" wood. Wood that is rotten or decayed has not been simply disintegrated as is the case in weathering. It actually has been decomposed.

#### **WEATHERING AND DECAY**

Weathering and decay usually are not found in the same place. Wood that is dry will not rot, because the fungi must have water to live. On the other hand, weathering usually is found where the wood as a whole remains fairly dry. The surface layers of the wood periodically take up moisture, but drying occurs before the water can penetrate to the interior of the wood and thus support decay.

Protection against weathering can be provided by coatings of paint or varnish. Such coatings, though they are not impermeable to moisture, protect the wood enough to prevent rapid changes of moisture content in the surface layers and thereby prevent weathering. Coatings do not preserve wood against decay. Where decay is likely to occur, a naturally durable wood should be selected or, better yet, the wood should be impregnated with

a preservative chemical that is toxic to decay organisms. Some well known chemicals of this kind are creosote, pentachlorophenol and copper naphthenate.

In the New England area and in other areas of the country, there are wood buildings more than 250 years old that were never painted. It is apparent from this and other evidence that wood is a durable building material and, in fact, commonly is referred to as a permanent building material. Wood will, on its own, outlast many, many times the most durable paint. It should be obvious then that we could not economically paint wood for the sole purpose of protecting it. On a dollar-and-cents basis we would be far ahead to give wood siding, for example, no protection and simply replace it when it wore out.

Among the various ways of dealing with the exterior wood surfaces of a structure, the least expensive procedure is to leave them completely untreated or unprotected. If this plan is to be followed, the wood should be one that weathers well, such as western red cedar, redwood or cypress. It is well also to nail with a little more care than generally is given where the wood is to be protected. Actually, weather-beaten wood is well adapted to only a limited number of architectural designs and to spacious rustic settings. This explains why so few buildings are treated in this manner.

The exterior woodwork of most buildings is commonly finished with one or more of three broad classes of finishes: (1) stains, (2) natural finishes, and (3) paints. Good shingle stains are inexpensive and durable. They come mostly in dark browns, greens, reds and yellows. They pene-

trate into and color the wood, obscuring its grain but leaving little or no film on its surface.

Rough-sawn or weathered wood surfaces are especially suitable for shingle stain. A good shingle stain should last at least five years and may last as long as nine or 10. Since stain does not form a continuous film on the surface of the wood, it does not protect the wood against weathering. Therefore, if a wood is to be stained, it is desirable to select a wood that weathers well and gives long service without any protection whatsoever. Best of our native species of wood on this score are the cedars, redwood and cypress.

#### **NATURAL FINISHES**

Natural finishes have become popular in the last 10 years. They are used in an effort to retain the natural appearance (color and grain) of wood. These finishes may be classified into two types: penetrating finishes which may be clear or pigmented, and surface coating or film forming finishes, which are usually clear.

Natural finishes of the surface coating type are chiefly spar varnishes. They may give a lustrous or glossy finish, or a dull or matte finish. No really durable natural finish of this type has been developed.

The penetrating natural finishes leave little or no continuous coating on the surface of wood. They include the oil finish, the wood sealer finish, and the water repellent finish. All three types look somewhat better and last longer if they contain some durable pigments. Usually, the reddish-brown iron oxide pigments are used for this purpose.

*(Continued on Page 50)*



Neither the penetrating nor the surface coating natural finishes are nearly so durable as paint and therefore need to be renewed much more frequently than paint, usually every year, or, at the most, every two years. Even with such attention and care, the surface coating types of natural finish may ultimately need to be removed completely to restore a satisfactory finishing surface. Penetrating finishes are less exacting in their maintenance requirements and do not fail as conspicuously as surface coating finishes, so they are to be preferred.

#### HOUSE PAINTS

House paint is by far the most widely used finish for outside woodwork. White house paint is still the most popular. A good white house paint should last at least four or five years before it must be renewed, tinted paints a year or two longer, and dark color paints from six to eight years, occasionally longer than that.

There are approximately 1500 paint manufacturers in this country, with no general agreement between them concerning the best type or types of paint. There are no standards of quality in the paint industry. So the buyer of paint has exceedingly little to go on. He cannot purchase a grade of paint as he can wood siding and many other items. In fact, it is the rare individual who can differentiate between paint of good and poor quality even if the composition of the paint is printed on the label, and in some instances it is not.

One is, therefore, left to his own resources. He must rely on his own past experience with a given manufacturer's paints (and the composition of paints is constantly subject to change) and perhaps on his own and others' experience with different types of paints. At the very least, then, he should have a statement of composition of the paints he is considering. With this information, we at least can help him by classifying the paints and apprising him of the strong and the weak features of the different types.

House paints may be classified simply, according to the pigments used in them, into six basic kinds or types: (1) titanium-lead-zinc paints, (2) titanium-zinc paints, (3) titanium-lead paints, (4) titanium paints, (5) white lead paint, and (6) dark color paints.

Each of these types of paint has some of the characteristics generally

considered essential in good house paint. These include durability sufficient to last from four to six years before needing to be renewed, a normal form of wearing away that assures a good repaint surface with a minimum of preparatory work, and a sufficiently fast rate of wear to prevent the accumulation of an excessively thick film of paint when a reasonable maintenance schedule is used (one coat every four or five years, or two coats every six years). Included, as well, are a clean, highly reflective color and the ability to remain free from excessive dirt collection in service. Paint also should be nonsensitive to moisture, and should not be stained by products of metal corrosion. Neither should it be discolored by hydrogen sulfide or organic sulfide.

No one type of house paint on the market has all these characteristics. All have some desirable features and some not so desirable. In order to select the type of paint likely to give the most satisfactory service, one should be familiar with the conditions to which exterior paints are subjected in his area. He must know what types of paint will stand up best under these conditions, which of the various properties of paint are important to him under the circumstances, and which are relatively unimportant.

#### TITANIUM-LEAD-ZINC PAINT

The type of paint now made in greatest volume is the titanium-lead-zinc paint. The content of lead and zinc varies over a wide range. In general, though, the lead content is steadily declining. Some of the larger paint manufacturers have eliminated it altogether, with the result that the titanium-zinc type of paint is now made in a volume approaching that of the titanium-lead-zinc type. Together, these two types of paints probably constitute as much as 75 per cent of all house paint made in the country.

The titanium-lead-zinc and titanium-zinc paints are much alike in their properties. The chief difference is that the titanium-zinc paints contain no lead or other pigments that react with hydrogen sulfide to form metallic sulfides of dark color. It is for this reason that they often are called "fumeproof" paints and are recommended for use where sulfide discoloration is a problem. Desirable properties which these two types of paint have in common include a brilliant, highly reflective color, good drying properties, mildew

resistance, the ability to remain clean in service, and good durability. However, they are generally hard, so they wear away comparatively slowly. They normally fail by cracking, curling and flaking, which necessitates precautions. The film of paint must not be permitted to become too thick and, on the other hand, the failure must not be permitted to advance too far before repainting is done.

Zinc-containing paints swell much more than wood swells when wet and, of course, much more than paints made without zinc oxide. Such paints blister more readily on contact with water than those paints containing no zinc oxide. Under some conditions, contact with water may not result in blistering but may simply bring about premature cracking, curling or flaking. We believe that sensitiveness to water is the most serious shortcoming of the zinc-containing paints.

#### "BLISTER RESISTANT" PAINTS

Paints of the titanium-lead, straight white lead, and titanium types, as well as those dark color paints made without zinc oxide, swell more on the order of wood when wet by water. The extent of swelling is much less than is the case with the zinc-containing paints. Therefore, such paints have much less tendency to blister than do zinc-containing paints. Hence, we refer to them as "blister resistant" paints.

The type of "blister-resistant" paint with which there has been most experience is white lead paint, which prior to about 75 years ago was the only white paint used on exterior woodwork. We might dwell for a moment on the properties of white lead paint. It is a durable paint that fails normally by checking and crumbling, a pattern of failure that leaves a good repainting surface requiring little preparatory work. It is a comparatively soft paint that wears away at a faster rate than do most other paints. This is desirable because it means that there is less risk of building the paint film up to excessive thickness. It is resistant to staining by rusting metal. Probably the most important of its properties is its nonsensitiveness to water. Even when exposed to water for a long time, it swells only about as much as wood does when wet. As a consequence, it has little tendency to blister.

White lead paint also has some disadvantages, some of which have led to preference for other types of ex-



terior paint. For one, it has an off-white color that does not compare favorably with the intense, brilliant white of most other paints. For another, it is given to serious dirt retention. Despite the fact that it wears away faster than other paints, it collects more dirt and retains it longer than most other types of paints.

Another serious objection is its property of discoloring on contact with hydrogen sulfide and some organic sulfides that cause the formation of black lead sulfide. Finally, white lead paint is somewhat more expensive than the other types of exterior paints.

#### "BREATHER" PAINTS

In recent years, paints made with titanium and lead pigments, but no zinc oxide, have appeared on the market. Some paints of this kind are sold as "breather" paints. In addition to titanium and lead, they contain a considerable quantity of transparent or extending pigment and are made with a high proportion of pigment to binder so they are characterized by a lack of gloss.

A few paints pigmented with titanium and lead are sold as "titanized white lead." Some paints of this kind contain no extending pigments. They are made with the conventional ratio of pigment to binder and therefore have as much gloss as the zinc-containing paints.

Paints of the titanium-lead type are nonsensitive to moisture and therefore are blister resistant. They have high opacity and generally stand between white lead paint and the zinc-containing paints in color, in resistance to soiling by dirt and staining by rusting metal, and in the rate at which they wear away. They do, however, fail by checking and crumbling, which is desirable because it provides a surface that is easy to repaint. On the other hand, they, like pure white lead paint, are discolored by hydrogen sulfide.

Paints made with titanium pigment (but no lead or zinc) and one of several special vehicles are now available. One of the vehicles used is a long-oil alkyd resin; another is referred to as a copolymer solution. This type of paint is sold as blister and stain resistant. Like the breather type of paint, it has little or no gloss. In opacity, color and resistance to soiling by dirt and staining by rusting metal, it is like the titanium-lead paints. It differs from such paints in that it is enamel-

like in its characteristics and resists sulfide discoloration. Such paint normally fails by cracking, curling and flaking, and indications are that it wears away at a rate similar to that of the titanium-lead paints.

Dark color paints, sometimes called trim paints or trim-and-trellis enamels, are most extensively used on exterior wood trim. They consist chiefly of dark color pigments and little, if any, titanium dioxide, white lead, or zinc oxide. In most trim paints the major portion of the vehicle is varnish, usually an alkyd-resin varnish. Iron oxide paints—the familiar red barn paints—may also be classified as dark color paints. If properly made, they are very durable. In general, good paints of dark colors are more durable than any white or light colored paint and are less sensitive to water than are white or light colored paints made with zinc oxide.

Now a word about paint primers, since the choice of a primer can do



much to ensure a long lasting, trouble-free paint job. In particular, a primer should be free of zinc pigments, even if a zinc-containing paint is used for the finish coat. Most paint makers provide special, zinc-free house paint primers or undercoaters for use with their mixed-pigment paints containing zinc. Some paints made without zinc oxide may be used as self-primers. In any case, it is wise to use primer and finish paint of the same brand.

Flat-grained woods with wide summerwood bands such as Douglas fir and southern yellow pine, or wood with knots, should be primed with a special primer. We have found that aluminum house paint, sometimes called "aluminum paint for wood," is best for this purpose.

Selection of a particular type of house paint requires careful thought. The experience of others in the neighborhood and city may be helpful in determining what types of difficulties with paints are common and which paints serve best. The construction of the building also should be considered. Does it have a wide roof

overhang to shield the walls? Has it adequate gutters and downspouts, and are they properly installed? Is there a good vapor barrier along with the insulation? If the answers are "yes" to all of these, a zinc-containing paint stands a fair chance of success (but only over a zinc-free primer and only if a sensible maintenance program is adopted). If there is doubt, or if one or more of these conditions cannot be met, one of the zinc-free paints is the wiser choice.

#### NOT A TRUE PICTURE

We hear the claim that the quality of exterior paint is better now than it has ever been, that the widespread difficulties being experienced with paint on wood buildings is because of the fact that the wood is of lower quality than it used to be. This is not a true picture of the situation.

Let us look at wood for a moment. The Forest Products Laboratory more than 20 years ago classified the commercially important species of this country into five groups on the basis of their paintability: Group 1, the cedars, redwood and baldcypress; Group 2, eastern white pine, sugar pine, and western white pine; Group 3, white fir, the hemlocks, ponderosa pine, and the spruces, also such hardwoods as aspen, basswood, cottonwood, magnolia and yellow poplar; Group 4, Douglas fir, southern yellow pine, and western larch of the softwoods, of the hardwoods, beech, birch, the gums, and maple; Group 5, ash, chestnut, elm, hickory, oak and walnut, all of which are hardwoods with large pores.

Among the softwoods, the painting characteristics of a board depend primarily upon the amount and distribution of summerwood. The width of the summerwood bands in softwoods usually varies with the density of the wood and the rate of tree growth, being narrower when the density is low or the tree growth is slow. Edge-grained boards have narrower bands of exposed summerwood than have flat-grained boards and, therefore, hold paint better and longer.

It is true that less than 10 per cent of the wood available to us for exterior building use is of the more desirable species with respect to paint holding ability. But this situation has not altered greatly in the last 25 years, at least not enough to account for the increasing incidence of paint failures. Edge-grained western red cedar holds paints as well and as long today as it



did 25 years ago. Conversely, it is about as difficult to maintain coatings of paint on the softwoods that have wide summerwood bands today as it was 25 years ago.

We have been making mistakes with our paints. First of all, we have gone heavily to water sensitive types of exterior paints, paints that blister with less provocation than the paints of old; our paints now are made with less nonvolatile per gallon, less film forming material per gallon, than used to be the case, and yet we try to get by with two coats for the original paint job on exterior woodwork.

### THREE COATS FOR ORIGINAL JOB

The Forest Products Laboratory did a great deal to establish two-coat painting as a sound practice, but the paints for this purpose have to be made specially. Today's paints will not meet the requirements; three coats are required for the original paint job.

We now think of building construction as a year-round occupation. Structures completed in the winter months are usually primed, but an interval of from four to eight months may elapse before the topcoat is applied. Too often the topcoat fails to bond properly to the prime coat; it separates from the prime coat in what is referred to as "intercoat peeling." It is better to delay all the painting of exterior woodwork of such buildings until warmer weather arrives because individual coats of a given paint job should be applied within weeks of each other.

The same thing is likely to happen when the paint on a new structure (which received a scanty coating of paint to begin with) fails after a year or two, and the owner feels prompted to apply just one more coat of paint at that time. To be on the safe side, a paint film should be permitted to weather a minimum of three years, and preferably four, before new paint is applied over it.

Possibly the most serious form of paint failure is blistering and peeling. Most, but not all, blistering and peeling are caused by water that gets into the side walls back of the paint coating. Such water may come from several sources, but the two most important are: (1) cold weather condensation—water vapor within the structure passes into the side walls where, during cold weather, it condenses out as liquid water and may later diffuse through the sheathing and siding and

cause the exterior paint to blister; (2) rain water that penetrates into the lap and butt joints to the back of the siding.

Much has been said and written about cold weather condensation as the cause of paint blistering, but it generally is not known that rain water is an equally serious cause of paint blistering. We have reason to believe that rain water that works through the joints to the back of the siding is the cause of as much, if not more, paint blistering than cold weather condensation.

Fortunately, there are symptoms that enable one to determine the source of water that is causing paint failure. When blistering results from cold weather condensation the blisters appear in the very early spring; blisters usually are more extensive on the north side of the building because that is the coldest side, and the blisters may be concentrated outside of rooms in which the relative humidity is higher than in the rest of the building. Blisters from this source occur on siding that is protected by roof overhang as well as on unprotected siding, but they occur only on heated buildings.

In contrast, blisters brought about by the penetration of rain water through the joints in siding and in other woodwork occur later in the spring and through the summer (during the rainy season). The blistering usually is most severe on the south and west sides of the building because the prevailing winds and rains are from those directions, and it occurs only on woodwork that is unprotected. The paint on siding immediately under the roof overhang is not ordinarily wet by rain and therefore does not blister under these circumstances. Paint blistering caused by rain water may occur on unheated as well as on heated buildings.

Cold weather condensation is best eliminated by providing a vapor barrier on the warm side of the exterior walls and on the ceiling. In the colder areas of the country, a vapor barrier should be installed at the time of construction. Aluminum foil, polyethylene film, and some asphalt coated papers serve as good vapor barriers. In existing buildings built without a vapor barrier, the practicable means of providing one is by painting the interior surface of the exterior walls with a paint of high moisture-excluding effectiveness. Aluminum paint

serves this purpose well and some of the oil base and latex paints are nearly as effective.

Penetration of rain water through the joints in siding and in other woodwork can be eliminated by treating the joints with a water repellent preservative prior to applying paint. This is a solution of a small amount of wax, some resin and drying oil, together with a fungicide in a paint thinner, such as mineral spirits. Such solutions have been used in the millwork industry for nearly 20 years, and today most millwork is treated at the plant with a water repellent preservative.

The user of paint brings some troubles upon himself, troubles that he might avoid if he were educated in the use of paint. For one thing, it is the rare individual who remembers, from one repaint job to the next, what type of paint he last applied on his woodwork. When it comes time to repaint, he selects a paint without regard for the one previously applied, and runs the risk of building up a film of widely dissimilar paints, which may fail as the result of incompatibility. He should select a good quality of paint at the time of construction and continue to repaint with that type of paint throughout the useful life of the structure.

### MUCH WOODWORK OVERPAINTED

Too much exterior woodwork is overpainted, either to restore a clean, fresh appearance or to change colors in keeping with the style. A safe paint maintenance schedule consists of two coats at six-year intervals or, at the most, one coat at intervals of four or five years.

Painting more frequently may ultimately lead to excessive film thickness at which point cross-grain cracking may occur. Once this type of failure occurs, the only truly satisfactory means of restoring a good painting surface is to remove the old paint completely down to the bare wood and start over.

This is a time consuming and expensive chore, and the individual faced with this task cannot be blamed for looking around for substitute covering materials to hide his mistakes. Unfortunately, this often results in the loss of a proponent of wood and paint for wood. This needless loss might have been avoided had the individual been educated in the proper use of paint and wood.



THE UNIVERSITY THEATER CALLED the auditors one day and presented a problem: The theater board had decided to issue tickets for workshop plays at a nominal price.

Heretofore, free tickets to these plays were quickly requested but many ticket holders did not attend the performance; after all, there was no investment to lose in case of a conflict in dates or a loss of interest in the play.

The specific problem of the administrative staff of the theater was as follows: As not too much cash would result from the sale of workshop tickets, would it be necessary to establish accounting controls, and if so, to what extent?

The auditors pointed out that a reasonable number of cash controls would not only protect the integrity of the theater administration but would simplify the work of handling tickets and reporting ticket sales. The theater management acquiesced but reiterated its stand that if too many complicating efforts were required because of the use of controls, the costs would be greater than ticket income and would outweigh the advantages of nonfree tickets.

The circumstances of this special problem were different from those of our ticket audits. The auditing division reviews the ticket sales reports submitted to it by the athletic association and the concert and entertainment board as well as those submitted by the University Theater for its regular plays. These reports involve printed tickets for sizable places of assembly. The problem at hand involved mimeographed tickets for a small workshop theater. The prices for customary institutional tickets are established at levels that will meet usual costs but not produce profits. The workshop ticket was to sell at a nominal price so that many usual costs, such as printing charges, were not to be incurred.

The audit procedure for reviewing the workshop ticket sales report would be about the same as the one employed for other ticket sales reports:

Audit steps would be verification of (1) initial ticket inventory, (2) complimentary tickets, (3) tickets available for sale, (4) unsold tickets, (5) tickets sold, (6) theoretical income, (7) actual income or total of cash deposits, and (8) cash over or short.

Initial ticket inventory is verified usually by comparison with a notarized ticket manifest, a printing invoice

**Beginning a series of  
articles on the subject:**

## ***Auditors Aid Administration***

### ***I—Accounting for Tickets***

**A. E. MARIEN**

*Internal Auditing Division  
University of Illinois*

or an official seating capacity. "Blind" seats and seats added or removed temporarily would be taken into consideration. Complimentary tickets are supported by authorizations accepted by the board of control. Unsold tickets are determined by the number of unused tickets sent to the auditors along with the ticket report. Theoretical income would equal tickets available for sale, less unsold tickets and the remainder times ticket price.

In the case of season tickets, a further audit step would be to mark the season-ticket books upon a seating blueprint for the place of assembly in order specifically to ascertain the tickets to be sold through the box office for each individual show of the season.

The auditors, in cooperation with the theater management, worked out the following solution to the workshop ticket problem. Though the accounting controls established were minimum in number, they were strong and basic ones. The theater secretary was to mimeograph the exact number of tickets required by the seating capacity of the workshop theater. A different colored paper stock was to be used for each evening. The tickets were then to be forwarded to the auditors, who would number both halves of each ticket. Thus, each ticket half would be authenticated

properly. It is standard theater procedure, of course, for the ticket-taker to tear in half each ticket received and give the theater patron a half. The half released serves as the "customer's receipt" or his claim to a seat.

The numbered tickets were to be returned to the theater and sold in the same order as their numbers. Unsold tickets were to be sent to the auditors along with a report of the tickets sold. The ticket-takers were to send to the auditors all ticket halves taken at the theater doors.

Cash from the sale of tickets was to be deposited intact in a prompt manner. For instance, receipts of a particular show were not to be intermingled with other funds or used for expenditures or as a change fund for another show. The only case in which a ticket returned to the auditors would bear a number out of sequence would be one in which a sold ticket had been refunded.

Evidences thus far show the solution to the workshop ticket problem to be satisfactory. The theater administration was happy to have been able to consult with an "outside" insider on its special problem. The auditors were grateful for the internal auditing custom of crossing departmental lines. It enables the auditors to be of real aid to management in all areas of college and university operation. #



It involves knowing what to prevent  
and then taking preventive measures, but —

## Preventive Maintenance Reduces Cost

T. M. REHDER

Director, Dormitories and Food Service, State University of Iowa, Iowa City

IN A GENERAL WAY, PREVENTIVE maintenance can be accomplished by sanitation, a few drops of oil, and common sense. More realistically, the story of "Preventive Maintenance Reduces Cost" is not that simple. It includes (1) good planning and building; (2) good management; (3) training of personnel; (4) maintenance, inspection and scheduled care; (5) good housekeeping.

Preventive maintenance involves knowing what to prevent and then taking preventive measures.

### GOOD PLANNING AND BUILDING

The most obvious and important place to practice preventive maintenance is when a building or a remodeling program is being planned. Are materials being selected with a view toward easy maintenance as well as good appearance? Will the walls, floors and ceilings in kitchens, dining rooms, toilet rooms, locker rooms, shower rooms, and storage rooms be easy to clean and resistant to moisture, water, grease and acid? Can the acoustical material be cleaned and painted? Are lockers set on concrete pedestals to facilitate cleaning? Are heating and plumbing lines accessible for repair and maintenance? Is the lighting sufficient for the various work areas? Are the switches placed where needed? Is the ventilation adequate and proper? Is each item of equipment designed and constructed in accordance with the accepted sanitation standard for that item? Have all precautions and provisions for the safety of both customers and employees been taken care of?

It has been said that the labor costs of a food organization are more or less established when the floor plan and layout are made. It is equally

true that patterns for maintenance costs are set at the same time.

In planning new or remodeling old kitchens and dining rooms the services of the experts are important, perhaps indispensable — the architect, kitchen engineer, interior designer, and interior decorator—but their judgment is not infallible and it should not necessarily be final.

From their fund of experience and training these authorities are in a position to recommend, but the food service director's own judgment as to the application of their recommendations to his particular need is best. He must operate and maintain the unit when the experts are gone.

The house mechanics or maintenance men should check all details of the proposed layout. They are in a position to make practical and economical suggestions. Otherwise, in order to operate and service equipment properly, it may be necessary to make changes in the plumbing or the electrical system or in the steam fitting because equipment was not properly located or liberties had been taken in installing it. To correct such mistakes is costly. In an effort to keep down the original cost, some colleges are actually "building in" high maintenance costs. Features are often omitted that would easily pay for themselves.

Directors of residence halls and food services should be able to read blueprints and specifications, visualize what they call for, and understand them. After the contractor has ordered the tile or the equipment or has put in a partition, it can be costly to say: "This is not the way I expected it. It will have to be changed."

### GOOD MANAGEMENT

What should we as food service managers and supervisors know that will contribute most to a good preventive maintenance program in this age of automation, radar ranges, electric can openers, and \$10,000 or \$15,000 kitchen machines?

Most of us are not, and are not expected to be, experienced engineers, refrigeration experts, plumbers or mechanics. But we should know the function and fundamental principles of the operation, its limitations, and the maintenance needs of each piece of equipment in kitchen and dining room.

If we have a steam table, we should know, for example, that the live steam must not only get to the table to keep it hot, but that there is such a thing as a steam return, and if this valve is turned off the table will not heat. If you call the steam fitter at 5:30 a.m. or p.m. because the steam table is not working, the college will pay a costly price to have him merely turn a valve. This sort of thing happens all too frequently.

We should know the operating characteristics of our equipment and at least know the manipulation of controls so that we can take care of an emergency situation until the mechanic or repair man arrives.

We should develop the same feel or sixth sense for a well operating piece





FROM COAST TO COAST...

# The greatest food service in America



Sexton occupies an enviable first place in the esteem of America's best-managed hotels and restaurants, schools and colleges and hospitals. Just the names on the Sexton roster of customers indicate that Sexton Foods merit utmost confidence. The way Sexton operates its entire organization to meet the requirements of the institutional trade is especially advantageous to thousands of exacting food buyers. Topping all this, of course, is the uniform high quality of Sexton Foods—outstanding in flavor, freshness and nutriment—unsurpassed in extent and variety.



CHICAGO • LONG ISLAND CITY • SAN FRANCISCO  
PHILADELPHIA • BOSTON • PITTSBURGH • DALLAS  
ATLANTA • DETROIT • INDIANAPOLIS

FAMED FOR FINE FOOD FOR 74 YEARS

# Sexton *Quality Foods*



of kitchen and dining room equipment that we do for our car. We may not know what is wrong but, at the slightest sign of trouble, we take it to the garage for checking.

#### **TRAINING OF PERSONNEL**

In the training of employees, emphasis should be on cleanliness. It goes without saying that keeping equipment and facilities clean is most important in preventive maintenance.

Equipment operators, whether they are cooks using a mixer or dish machine operators, must not only be properly trained in the operation but should be trained to report any faults or mechanical failures. Leaky faucets, burned out electrical elements, leaking pumps, overheated motors, oil leakage in mixers, improper steam pressures and hot water temperatures, broken belts, compressor failures, all of these should be reported by employees. No matter how efficient a maintenance department is, these defects will appear from time to time. Employees should be instructed to turn in any bolts, nuts or machine screws found in the area.

Maintenance inspections, scheduled care, and good practice for the care and operation of equipment and plant must be set up.

When we speak of "house mechanic" and "maintenance man," we really are speaking of functions and skills. The over-all application is the same, whether there is a maintenance department within the food service or whether the college has a well developed physical plant setup. In a small college, the maintenance man may well be a local electrician or mechanic, but he should be someone who thoroughly understands the functions and mechanical operation of kitchen and dining room equipment. He should know his limitations and call for assistance if the problem is beyond his skill or tools.

Equipment and plant should be kept constantly at a point of good maintenance; it is poor policy to delay maintenance and repairs until the college is closed for vacation. If repairs and maintenance are delayed until the holiday period, it is true that the maintenance staff will be kept busy, but the risk is greater than the gain. Neglecting to repair one part may create the necessity of having to repair other parts.

Most equipment in college kitchens and dining rooms is of such nature

that it can be serviced and repaired during operation. The maintenance mechanic should make a weekly inspection of every piece of mechanical equipment, including all mixers, slicers, choppers and peelers. The check of the dish machine would include the rinse nozzles, pump bearings, grease and oil, drive mechanism, agitator mechanism, and all control and water valves. In an average kitchen serving from 600 to 1000 people, this can be done in approximately one hour's time. This weekly check by the mechanic should be in addition to the daily check made by the operator on many of the same items.

An expenditure for preventive maintenance that I strongly recommend is to bring to the campus the manufacturer's service man for the dish machines and larger pieces of kitchen machinery. He should go over each piece of equipment with the maintenance mechanic. This will bring the mechanic up to date on new methods and technics for servicing this equipment and will be excellent training for him.

#### **REFRIGERATION, AIR CONDITIONING**

The servicing and care of refrigeration and air conditioning equipment is a specialized service. This equipment should be checked weekly by a trained person.

Refrigeration equipment generally divides into two types—the air-cooled and the water-cooled. In dealing with air-cooled compressors, the condensers must be kept very clean. The condenser is like the radiator in a car—there the heat that has been taken out of the refrigerator is transferred to the air.

Water-cooled compressors also must be checked regularly. The water valve must be watched so as not to run up a high water bill.

With the new types of refrigerant gases, there are no odors that spell leakage as in former days when sulfur dioxide or ammonia was commonly used. Today with freon and other new types, unless the gas content is actually checked by the service man, no one knows whether the refrigerant is running low because of leakage.

#### **GAS AND ELECTRICAL EQUIPMENT**

Gas ranges and gas-fired equipment should be checked twice a year. Most public service companies have personnel who will check the orifices, pressures and temperature controls.

Once a year gas ranges and broilers should be disconnected and given a thorough cleaning to remove grease and carbon accumulations that have collected in inaccessible places. It has been our experience that the springs on oven doors lose their tension long before there is any sign of wear on the rest of the range. This not only causes heat loss from the oven and a higher gas bill, but the extra heat in the kitchen does not add to the comfort of the cooks.

For electrical cooking equipment a similar program should be carried out.

#### **FAN MOTORS**

All fan motor bearings should be checked weekly. These can be given too much grease as well as not enough. Ball and roller bearings tend to get noisy before they heat up. Many times a good mechanic can tell by the sound of the bearings that trouble is approaching before it actually shows up. The noise develops so gradually that it is difficult for someone on the job daily to detect it. But it would be obvious to a good mechanic making an inspection.

A profitable point of preventive maintenance is in kitchen trucks. A broken or faulty caster or shelf could result in a costly spill of dishes.

#### **STEAM EQUIPMENT**

Steam equipment should be checked yearly; steam traps should be cleaned, pressure valves and gauges checked.

A complete file of parts catalogs for all models and types of equipment in use in the department is most important. When repairs are needed, much valuable time can be saved by ordering the repair part by number. Also, it is necessary to know the model, the serial number of the machine, and the name of the manufacturer.

The maintenance man or the department should keep a complete record of the manufacturer's printed directions for the care and operation of each machine. Records should indicate what repair parts are on hand and where. Inspection records should be kept including dates and pertinent information on the repair of all machinery. Records of the cost of repairs and the frequency with which certain repairs are needed are important. From these records it is possible to decide whether it is better to repair or to replace a particular piece of equipment. (Cont. on Page 58)





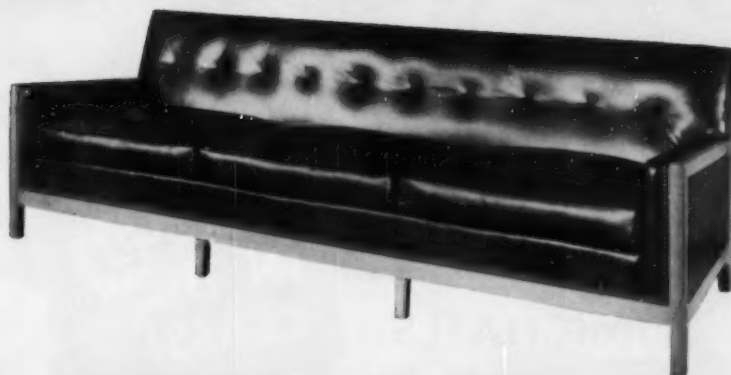
## HUNTINGTON

*—always in good Taste*

Pictured here are 7 of 179 patterns of Huntington furniture—all specifically designed for your sleeping and seating area. They can be harmoniously combined for your every



need. Lounge and waiting rooms give an instant quality impression—the Huntington equipped sleeping rooms have a relaxing homelike atmosphere.



While designed for attractive warmth that avoids a look of unpleasant austerity, Huntington furniture is marked by the style and grace of free-flowing simple lines and rounded corners that make for inexpensive, quick, easy maintenance. High-quality solid hardwoods are used for long, heavy-duty wear; finishes resist staining from alcohol and medicaments; chairs are built to avoid marking walls.



### Designed for today AND tomorrow—

Please mail complete information  
about Huntington furniture to:

CUB  
5-57

Company \_\_\_\_\_

City \_\_\_\_\_

Attach to your letterhead and mail to:  
Huntington Chair Corporation, Huntington, W. Va.



## HUNTINGTON



One measure of the efficiency of a preventive maintenance program is the ability to keep operating equipment in good working order, and, when a breakdown occurs, to get that piece of equipment back into working order immediately. Certain repair parts should be stocked. Experience and the judgment of the mechanical department will help to decide which items and how many of each should be kept in stock. It requires care to keep this inventory at a minimum.

Standardization of equipment plays an important part in the maintenance

program, particularly if there are several kitchens.

If the college has garbage disposal units, it is a good investment to have an extra one so that a disabled unit can be taken to the shop and the spare unit put into immediate operation.

The same is true for the smaller fountain type of dish machine. If there are several in places where they get from six to 12 hours of heavy use daily, it may be wise to have a spare dish machine so that the mechanic merely replaces the machine to be repaired with the spare.



## ...MICHAELS *Time-Tight* EXHIBIT CASES

Michaels exhibit cases, made of extruded bronze and aluminum, are recognized everywhere for their high quality, distinctive appearance, maximum visibility, flexibility of interior arrangement, and other advantages. Innerlocking frames, exclusive with Michaels, mitered intersections, and other structural features, assure protection against ingress of dust and vermin, as well as security against handling and theft. Many types are available: table, aisle, corner, suspended and recessed cases in standard sizes or custom built.

Michaels cases are used extensively by educational institutions, museums, art galleries and libraries. Write for catalog containing complete information.

**THE MICHAELS ART BRONZE CO., INC.**  
P. O. BOX 668-C, COVINGTON, KENTUCKY

*Since 1870 the name Michaels has been a symbol of exceptionally high quality*

### GOOD HOUSEKEEPING

The following are good housekeeping items or areas where costs can be reduced.

*Insect and vermin control.* Many roaches and insect pests gain entrance to a building on the foodstuffs or in food baskets and containers when they are delivered. Their reproduction rate is rapid, and they thrive in warm, damp hiding places. The experienced and competent exterminator has the equipment, knowledge and trained personnel to deal with these pests. It is good preventive maintenance to contract for the services of such a person or firm.

*Hoods and ventilating ducts.* This is another area in which specialists can do a better job at less expense than can the college. Once a year all hoods and ventilating ducts should be cleaned and fireproofed.

Cleaning should include the exhaust fans. If not cleaned regularly, these fans will "build up" grease and dirt on the blades so that they run out of balance and unevenly. No mechanic can keep an exhaust fan working if it is not clean. A reliable firm will see to it that the ducts are cleaned all the way up. More than likely it will be necessary to build access doors to these ducts if they were not properly installed, but this, too, is good preventive maintenance. If it is not done, a fire in the ventilating system is likely.

*Painted surfaces.* Painted surfaces in the kitchen area should be washed when they become soiled, rather than repainted frequently. A build-up of paint is to be avoided.

*Air filters.* Air filters should be cleaned once a week. It is wise to use the metal washable type in contrast to the disposable type.

The brochure, "Care of Food Service Equipment," prepared under the direction of the American Dietetic Association is an excellent piece of work and is essential to a good food service library.

All of us could use an extra drop of oil in our relationship with employees; this also is good preventive maintenance. Breakdowns in food service operations are not restricted to mechanical equipment.

Our primary task is that of producing good food and satisfied customers, or producing satisfied customers with good food. If and when we do it, this, too, is good preventive maintenance. #





**THE BEST FOOD DESERVES THE FINEST CRACKERS**

**RITZ CRACKERS  
and WAVERLY WAFERS**

Serve these two outstanding Nabisco favorites with salads, soups or beverages. Your customers will love their rich, delicious flavor and oven-fresh crispness. You are assured of top-quality products, thanks to the moisture-proof cellophane packets.

**SEND FOR FREE BOOKLET AND SAMPLES**

National Biscuit Co., Dept 21  
425 Park Avenue, New York 22, N. Y.

Name \_\_\_\_\_ Title \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

®



## LETTERS TO THE EDITOR

### Amplifies Statement on Bookstore Salaries

In a recent editorial I made a brief statement about the percentage of salaries that should be paid to store personnel. Several college officials wrote for clarification of the statement that 12 to 15 per cent of gross sales should be paid to all personnel and further that 6 per cent should be paid to the manager. It is possible to interpret the 6 per cent as being a percentage of the 12 to 15 per cent, but the intention was to repeat a statement basing the 6 per cent on the gross sales of the store—perhaps half of all salaries paid to personnel in the store. It is not possible to cover the salary problem in such a brief statement; considerable elaboration is necessary.

Colleges either pay the price for good management or they lose much more than this amount in lost sales and poor service. The college store is one of the few operations on a campus that demonstrates most of its success on the operating statement. Good management equals profits and service.

Administrators seldom come from the field of retailing, so it is quite unusual to find one that can adequately train management in the store; therefore it is necessary to hire experienced managers.

All too frequently we see managers appointed who have had little experience or no experience at all. Generally the reason is economic since the school does not see the importance of paying sufficient salary to obtain trained management. This might be expected in smaller schools where the money available makes it difficult to get experienced help, but it is also true in some of the largest schools. Half-million and million dollar operations have been trusted to novices. It is very expensive to train a manager in service. His mistakes while he is learning will cost far more than the difference in cost of a good manager.

The fact that the administration believes that "purchasing experience" is adequate training for college store operation is probably the reason that many stores operate with about twice as much capital invested as is necessary. Purchasers are after the lowest price possible, while retailers are after repeated turnover and the prevention

of unsalable stock. The purchaser must keep in mind that the goods must be sold. Some of our best managers have come from the purchasing field but they have had to adapt themselves to the retailing problems.

Turnover of management is a National Association of College Stores problem. Each year more than 10 per cent of the 850 N.A.C.S. managers leave the field. Certainly one of the best sources for trained personnel is within the college store field. The National Association of College Stores is in position to assist colleges in giving advancement to those men who have shown promise. Another fine source is the department store field.

One basic criteria for a salary scale for college store management is that colleges must be reasonably competitive with salaries being offered in the noncollege retailing field.

University administrations seem loath to use the same technic used so successfully in the general retailing field—allowing a share of the net profits to management. Department stores are not philanthropic when they use this technic, and the net result is better service and profit. It can work successfully for school owned stores.

One university has met the problem of the manager's salary scale by establishing the principle that its experienced, outstanding manager should be paid the average of the deans' salaries. It is to be assumed that the new manager would start at a lower rank but expect to be able to attain that dean average within a reasonable time.

The 6 per cent figure mentioned in the first paragraph was checked with a group of average managers who were in the sales bracket of \$100,000 to \$250,000. They felt that this was adequate compensation in this type of store. Naturally when the volume of the store is lower than the \$100,000 figure, the figure will have to be revised upward. In the larger stores the percentage will go down, but the total supervisory personnel salaries paid will stay at the 6 per cent figure.

The real problem of the college store manager is that in many cases he is ranked on the campus as the "low, low man on the totem pole." This is not unexpected since the college store has grown swiftly in the last 10 years, and frequently this advance has not

been recognized in administrative rank. Rank and salary seem to coincide, so all that has been said is that all schools should reevaluate the rank of their college store management. The position can be profitable to the school if it is profitable enough to the manager to warrant his making it his profession. Selecting an experienced man and paying him well will guarantee an outstanding store on every campus.—RUSSELL REYNOLDS, *general manager, National Association of College Stores.*

### Urges Federal Aid for Private Colleges

Senator Clifford P. Case presents a good case for federal aid to education in the guest editorial in your March issue. It seems to me, however, that Senator Case does not appreciate the need for federal aid to its full extent.

Junior colleges will indeed relieve the strain on other institutions of higher learning to a considerable extent, but I think the Senator should be concerned about these other institutions as well. Presidents and business officers of state universities and other tax supported institutions must appear before legislatures biennially to plead their case for appropriations to continue operations and to expand facilities, and in many instances direly needed appropriations are cut so that the educational purposes of these institutions must be curtailed.

Then I think the Senator should consider the plight of the privately endowed colleges and universities. Take, for instance, the case of a poor indigent college such as Harvard, which, according to a news item in the same issue of your magazine, must now ask its alumni and friends for \$82½ million. To a lesser degree, this is true of many private colleges which must year after year seek gifts to balance the budget.

It seems a shame that these private institutions should continue to depend on individual and corporate philanthropy for their support when our beneficent government could raise this money by taxation and disburse it in its own good wisdom. Besides, these institutions are entitled to the counsel and advice and direction of our able congressmen and senators and the ever-increasing number of citizens engaged in the government service in bureaus in Washington.—BRUCE POLLOCK, *vice president and treasurer, Carleton College, Northfield, Minn.*





## *Built to handle school kids...handsomely!*

Weis Vitre-Steel compartments are porcelain enameled inside and out for a lifetime of beauty and utility.

Exposed surfaces are then refired in your choice of Weis Vitre-Steel colors. Glass hard, AA Grade, acid-resisting

Vitre-Steel withstands not only normal everyday usage, but is highly resistant to acids, cleaning compounds and even defacement. Perfect for hospitals, schools, offices, factories . . . wherever you install them. Available in ceiling-hung type as shown, or floor-braced styles.



WRITE FOR NEW COMPLETE CATALOG

HENRY WEIS MANUFACTURING COMPANY, INC.  
5107 Weisteel Building, Elkhart, Indiana

**SPECIFICATIONS:** Panels, stiles and doors shall be flush construction, and shall be made of two face plates of not less than 18-gauge enameling iron with formed edges, cemented under pressure to fiberboard core and joined by welding abutting edges at suitable intervals. Edges shall be bound with die-drawn stainless steel moldings interlocked under tension onto formed edges, mitered and welded at corners and welds ground smooth. Partitions and doors shall finish 1" thick; stiles shall finish 1 1/4" thick.

All surfaces, concealed and exposed, shall receive a vitreous porcelain enamel ground coat. All exposed surfaces shall then be given a cover coat, in a color selected from the Weis color chart of decorator colors.

Doors shall be hung on WEIS gravity hinges with upper hinge mounted in recess in edge of door. Doors shall be fitted with slide bar latch, combination keeper and bumper and coat hook with rubber-tipped bumper, all to be brass, chromium plated. Latches and coat hooks shall be attached with theft-resistant screws.





# NEWS

Princeton Extends Medical Plan . . . College Business Management Institute and

Workshop Scheduled for Kentucky and Nebraska . . . Dr. Eisenhower Warns

Institutions to Guard Academic Rights . . . Fraternities Ban Bias Practices

## National Commission Appointed to Study Governmental Controls

BALTIMORE.—A definitive study of the governmental controls being imposed upon colleges and universities has been undertaken under the auspices of the Fund for the Advancement of Education. President Milton S. Eisenhower of Johns Hopkins is chairman of a national Commission on Public Controls in Higher Education. The study has been initiated by the Fund at the request of the National Association of State Universities and the Association of Governing Boards of State Universities and Allied Institutions.

Dr. Malcolm Moos, professor of political science at Johns Hopkins University, has been appointed research director, to be assisted by Dr. Francis E. Rourke, assistant professor of political science at Johns Hopkins, and by research consultants in the fields of educational policy and administration. Margaret Wiberg is secretary to the staff.

Members of the commission are: Alexander Boyd Campbell, president of the Mississippi School Supply Company, Jackson; Father John J. Cavanaugh, president-emeritus of the University of Notre Dame; Dr. Margaret Clapp, president of Wellesley College; Dr. Charles W. Cole, president of Amherst College; Dr. James B. Conant, president-emeritus of Harvard University; Dr. Arthur S. Flemming, president of Ohio Wesleyan University; Clinton Golden, executive director of the Trade Union Program and trustee of Antioch College; Dr. Virgil M. Hancher, president of the State University of Iowa; Senator Herbert R. O'Connor of Maryland, past president of the Council of State Governments; Hollis Rinehart, attorney, Miami, Fla.; R. Sargent Shriver Jr., president of the Chicago Board of Education; Edgar W. Smith, busi-

nessman, Portland, Ore.; J. Russell Wiggins, managing editor, *Washington Post and Times-Herald*, Washington, D.C., and Alfred H. Williams, president of the Federal Reserve Bank of Philadelphia and former dean of the Wharton School of Finance and Commerce, University of Pennsylvania.

Headquarters offices are in Baltimore. The Commission's final report will be issued in the spring of 1958.

## Business Management Institute July 22-27

LEXINGTON, KY.—Frank D. Peterson, vice president of business administration at the University of Kentucky, announced that plans for the fifth annual College Business Management Institute are nearing completion. The institute will be held at the University of Kentucky during the week of July 22-27.

Credit courses available cover two weeks of work, the first week to be devoted to classes at the university and a second week to be completed in the form of independent work that may be done at home.

Additional information can be obtained from Powers Jones, coordinator of the College Business Management Institute, University of Kentucky, Lexington.

## \$1 Million Fire at Women's College

PAINESVILLE, OHIO. — A fire on April 13 destroyed the chapel and 20 residence hall rooms at Lake Erie College for Women, forcing 220 students to flee the structure in their nightclothes. The building was built in pre-Civil War days.

All the girls were able to get out safely, after two students discovered the fire smoldering in their closet and spread the alarm.

## Program for Business Management Workshop; Scholarships Available

OMAHA, NEB. — Charles W. Hoff, vice president in charge of business at the University of Omaha, recently announced that plans for the eighth annual Workshop in College Business Management have been completed. The workshop will be held at the University of Omaha from July 28 through August 3.

Carnegie Corporation grants will be made available to a limited number of college business managers for the workshop. Recipients will be selected from those who have not attended previous summer workshops in college business management.

The secretary of each of the regional associations of college business officers and the secretaries of the College and University Personnel Association, the National Association of Educational Buyers, and other groups will have a supply of application blanks for Carnegie Corporation grants. Anyone wishing to make application for a grant should contact one of these persons.

The subject matter to be emphasized at the workshop includes courses in the philosophy of higher education, budget preparation and control, purchasing philosophy, administration of noninstructional personnel in small colleges, research technics, national affairs, college retirement systems, public relations procedures, casualty insurance programs, and a wide range of other subject matter dealing with food service, buildings and grounds operations, and residence hall and food service administration.

Included as faculty personnel in this year's workshop are: J. D. Adwers, director of physical plant, University of Texas Dental Branch, Houston; George Barker and Charles Martin, Omaha



**NO HELP  
NEEDED**

## One Man handles all operations of Powerized Roll-A-Way\* Bleachers

**New Poweroller\*\* does all work  
quickly, accurately, safely;  
custodian merely directs action**

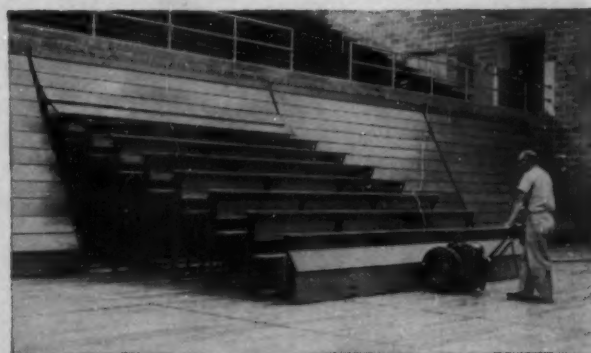
Physical effort is no longer required for the operation of folding gymnasium bleachers... if you have powerized Roll-A-Ways. One man can open or close any section in a few seconds; all sections in just a few minutes. The work is done by *Universal's* new *Poweroller*, a compact mobile electric power unit. Safe, accurate operation is guaranteed. Bleachers may also be opened or closed by hand if desired.

Here is gymnasium seating at its best... and the extra cost is negligible. Powerization is available for all new Roll-A-Way installations. If you are planning a gymnasium, it will pay you to investigate today.

### UNIVERSAL BLEACHER COMPANY

**Champaign, Illinois**

*Representatives in principal cities*



**OPENS**



**CLOSES**

**10-15-20-25  
OR MORE ROWS**



\*T. M. Reg.

\*\*T. M. Reg.—Pat. Pend.



insurance executives; Robert Broughton, American Council on Education; Richard C. Debus, assistant business manager, University of Omaha; Donald E. Dickason, director of nonacademic personnel, University of Illinois; Donald G. Emery, dean of the college of adult education, University of Omaha; Frank H. Gorman, dean of the University of Omaha College of Education.

Others serving on the faculty include: Rowland Haynes, president emeritus of the University of Omaha; Harold W. Herman, editor, COLLEGE

AND UNIVERSITY BUSINESS; Elmer Jagow, business manager, Knox College; James J. Ritterskamp, vice chancellor, Washington University; John Dale Russell, chancellor and executive secretary of the Board of Educational Finance, State of New Mexico; Dr. Clarence Scheps, controller, Tulane University, and Donald Willard, T.I.A.A.

### Dr. Milton Eisenhower Scorns Federal Aid

NEW YORK.—Dr. Milton S. Eisenhower, president of Johns Hopkins University, in a recent address before

500 alumni in this city, made a strong plea for academic freedom against encroachments by any level of government.

"Education without freedom is no education at all; it is simply indoctrination or propaganda," he asserted in his address here. Dr. Eisenhower opposed federal support for private colleges and universities, even when rising costs tempt these institutions to turn to Washington for financial aid. He expressed himself as being against the use of federal funds to meet the general operating purposes of the university, and rejected the proposed ideas for a general federal scholarship program. Dr. Eisenhower did approve, however, of the allocation of federal funds to universities for specific research projects that they were particularly equipped to undertake.

"These funds are justified when used in such a way that they do not impinge adversely upon the universities' educational and research programs. But I am opposed to the outright federal subsidization of higher education."

In speaking of relationships with state and local governments, he pointed out that "private institutions must maintain such strong traditions of academic freedom that political leaders must forego the temptation to encroach upon freedom of inquiry and teaching in our public colleges and universities."

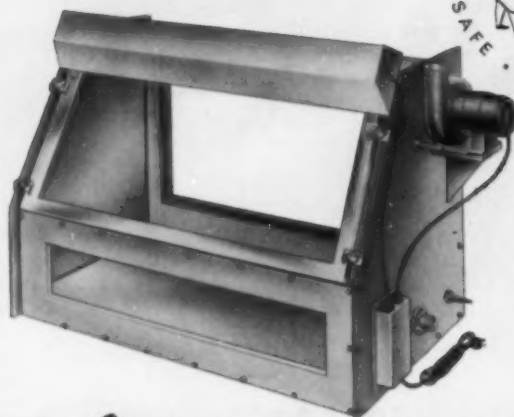
### Institute on College Administration July 15-19

ANN ARBOR, MICH.—The annual Institute on College Administration held for presidents, deans and other administrative officers will be held at the University of Michigan from July 15 to 19 inclusive.

The major themes to be covered are: problems and trends in higher education, curriculum planning and administration, human relations factors in personnel administration, student personnel problems, and purposes of higher education and their implementation.

The director of the institute will be Algo D. Henderson, professor of higher education, University of Michigan, and the assistant director will be James M. Davis, assistant professor of education and director of the International Center at the university. Other members of the institute staff will include Dr. Earl McGrath, director of the institute for the study of higher education, Teachers College, Columbia

Serve ALL Science Labs



with *One* FLEXIHOOD

### Kewaunee's Safe, Movable, Clear-View Fume Hood

Put it where you want it. Kewaunee's FLEXIHOOD is easily moved—within a lab and from room to room. With one low-cost unit, you can provide *all* your science departments with safe, sure fume removal.

Glass paneled front and rear, the FLEXIHOOD is an excellent lecture-demonstration unit that provides all students with an unobstructed view of the experiment as it is being conducted.

FLEXIHOOD is remarkably compact—36½" wide (43" with attached blower), 25" high, 20" deep. It requires no expensive installation for blower and duct system and does not need fixed mechanical services.

Write for FREE brochure giving complete details and specifications on the efficient, portable FLEXIHOOD.



REPRESENTATIVES IN  
PRINCIPAL CITIES



**KEWAUNEE MANUFACTURING CO.**

5069 S. Center St., Adrian, Michigan



# WESCODYNE® cleans as it disinfects



## for less than two cents a gallon



WESCODYNE is a completely new detergent-germicide that contains amazing "Tamed Iodine"®. Increases germicidal capacity three to four times and offers a much wider range of effectiveness than solutions containing chlorine, cresylics, phenolics or quaternaries.

WESCODYNE is also an excellent detergent as well as a powerful sanitizer and disinfectant. Provides fast cleaning action as it disinfects. A time and labor saver.

...all at a cost of less than 2¢ a gallon at use dilution!

WESCODYNE is nontoxic, nonstaining and nonirritating to the skin when used as directed. Further, it contains an exclusive "built-in" safety feature. In use, its amber color guarantees the presence of germicidal activity. When this color disappears, a fresh solution must be used. You're always sure of germicidal action!

WESCODYNE is used by leading hospitals throughout the U.S.A. Complies with U. S. Public Health Service recommendations. Leaves no odor. Recommended for almost any sanitizing or disinfecting procedure. Interested? Send the coupon.

LARGEST COMPANY OF ITS KIND IN THE WORLD



WEST DISINFECTING COMPANY, 42-16 West Street, Long Island City 1, N. Y.  
Branches in principal cities • In Canada: 5621-23 Casgrain Ave., Montreal

- ☐ Please send full information on Wescodyne.
- ☐ Please have a West representative telephone for an appointment.

Name.....

Position.....

Mail this coupon with your letterhead to Dept. 9





University; Frank R. Kille, dean, Carleton College, Northfield, Minn.; E. G. Williamson, dean of students, University of Minnesota, and additional administrative officers and professors from the University of Michigan administrative staff.

### Princeton Extends Medical Insurance

PRINCETON, N.J. — Officials of Princeton University recently announced extension of an insurance program for faculty, administration and staff that would cover major med-

ical expense, allowing a maximum benefit of \$15,000 for each person.

The entire cost of the program, for which all members of the faculty, administration and staff are eligible, will be borne by the university.

Princeton is among the first educational institutions to provide such complete coverage for its staff. It was also one of the first to provide comprehensive retirement allowance and life insurance, which have been adjusted periodically to correspond to rising living costs. In 1951, 1952 and 1953, federal Social Security, Blue

Cross and Blue Shield, respectively, were made available to the members of Princeton's faculty.

### Stanford Fraternities Oppose Discrimination

PALO ALTO, CALIF. — The Interfraternity Council of Stanford University, representing the presidents of 24 national fraternities on the campus, has gone on record against membership restrictions based on race and religion. Discriminatory restrictions are described by the council as "contrary to the ideals of the university, the fraternity system, and the fraternity men at Stanford."

At present, national charters of 13 of Stanford's 24 fraternities contain restrictive clauses, a university spokesman said. However, these clauses often were winked at by the local chapters, especially where religion was concerned.

The Interfraternity Council's action followed a university policy statement of March 4 in which opposition was expressed to the continuation of discriminatory practices.

### Offers Graphic Materials on Library Buildings

BROOKLYN, N.Y.—Harold D. Jones, chief circulation librarian of Brooklyn College Library, announced that a collection of graphic materials descriptive of new college library building is available for loan.

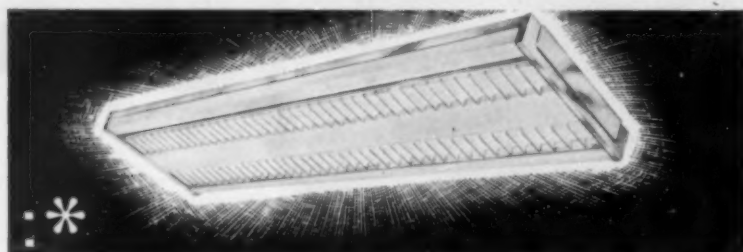
The collection includes 200 colored slides of 31 libraries, 100 large black and white photographs, and several dozen articles showing floor plans, preliminary instructions to architects, and other illustrative data.

The loan collection is available on request without charge, except for postage, and it may be kept two weeks.

### College to Operate as Small University

SPRINGFIELD, OHIO. — Wittenberg College is to adopt a small university type of academic structure including four schools. President Clarence C. Stoughton says the action climaxed more than three years of study.

New units will be a school of arts and sciences and a school of professional studies created from the present college structure. The other units, Hama Divinity School and the school of community education, are already in operation.



a new lighting development from *Smithcraft*

**Smithcraft TWO SOME**  
with "COMPOUND SHIELDING" • Very Shallow • 45° x 45° Shielding • Low Cost

To meet a real need in school and classroom lighting, this brand new unit provides the comfort of 45° x 45° shielding in a top-value, low-cost fluorescent unit. Because the unit is very shallow (only 3½" deep) it is ideal for today's low ceilings. There is no dark center streak. The new Smithcraft Compound Shielding is a center strip of extruded Polystyrene with white steel baffles on either side . . . very interesting and good looking. Maintenance and installation of the TWO SOME are fast and simple, making the unit an all-around excellent, long-term investment in good school lighting.



HARRY R. WOLF, Jr., Philadelphia Representative, one of Smithcraft's nationwide sales organization.

the man from *Smithcraft*

He's able to talk "lighting" rather than "fixtures", because he has the experience that comes from helping school administrators and architects to cope with the intricacies of blueprints and budgets. Call him in to consult with you or your board at any time . . . whether the problem is that of lighting new schools or re-lighting existing classrooms.

Smithcraft fluorescent lighting units are installed in thousands of schools, stores, factories, and other types of installations from coast to coast. Wherever good lighting is important, you'll find Smithcraft!

SMITHCRAFT — "AMERICA'S FINEST FLUORESCENT LIGHTING"

**Smithcraft**  
LIGHTING  
CHelsea 50 MASSACHUSETTS

PLEASE ATTACH TO YOUR BUSINESS LETTERHEAD and mail to  
**Smithcraft LIGHTING, CHelsea 50, MASS.**

NAME \_\_\_\_\_  
TITLE \_\_\_\_\_ SCHOOL \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_

- ☐ Please send me the monthly publication, "Light Side of the News", so that I can keep in touch with the latest trends in lighting.
- ☐ Please send me the "TWO SOME" Folder and catalog sheets.
- ☐ Please send me the complete SMITHCRAFT CATALOG, containing data on America's Finest Fluorescent Equipment.





*Experienced  
Hands*

of the *Hillyard* Maintaineer®

*can uncover Big Savings*

in Your Floor Maintenance Program

★ 1957 ★

★ MARKS OUR  
★ 50th Year  
★ OF SERVICE ★



ST. JOSEPH, MO.

PASSAIC, N. J. SAN JOSE, CALIF.

*Branches and Warehouses in Principal Cities  
(over)*



PUT THE  
*Hillyard* "MAINTAINEER"<sup>®</sup>  
in your picture  
to make maintenance  
DOLLARS GO FARTHER



H. G. "Mike" Heller  
One of Many Second Generation Hillyard Maintaineers.  
"He brings 50 years' experience to your floor maintenance problems."

"Young Mike" Heller has been a Hillyard Maintaineer for the past 7 years. When he surveys a floor and recommends restoration, treatment, or maintenance —

he speaks with the authority of his own intensive Hillyard training, and job experience as Floor Maintenance Specialist.

he draws on the experience of the entire Hillyard organization, accumulated during a half century of service and leadership.

he shares experience with the more than 150 other Hillyard Maintaineers, stationed in other cities of the U. S. A.

and he gets a special boost from the experience of his father, M. G. Heller ("Mike Senior"), who has a distinguished record of nearly 20 years as a Hillyard Maintaineer!

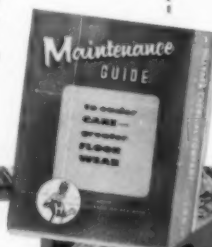
*Why* SAVE PENNIES IN MATERIALS—WHEN YOU CAN SAVE DOLLARS IN LABOR?

Ask for a *Free Hillyard*

FLOOR SURVEY...

and a complete floor treatment plan, serviced and supervised by your Hillyard Maintaineer. He will be glad to train your custodial staff in most efficient use of tools and materials to carry out the plan. Consider him your own expert consultant on floor maintenance problems.

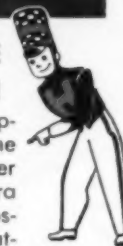
"On Your Staff, Not Your Payroll"



Records show that 93c of every floor maintenance dollar goes for labor—here is your big chance to cut floor maintenance costs!

Use Hillyard Products—  
Approved by Flooring  
Manufacturers and  
Contractors

ONLY 7c FOR SUPPLIES



HILLYARD CHEMICAL CO.

St. Joseph, Mo.

Please have your nearby Hillyard Maintaineer show me how I can save real money on floor care.

Name \_\_\_\_\_ Title \_\_\_\_\_

Institution \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Send today  
for a **FREE**  
FLOOR TREATMENT  
SURVEY

HILLYARD CHEMICAL CO.  
St. Joseph, Mo.







Westminister Choir College Dormitory, Princeton, N. J. Fulmer and Bowers, Architects, Princeton, N. J. Harry Terry, Consulting Engineer, New York, N. Y.

## Revolutionary SelecTemp System Easily Solves College Heating Problems

**Iron Fireman SelecTemp heating has room-by-room temperature control. Economically installed in old or new buildings, low operating costs.**

Heating requirements are **NEVER** the same in **every** room. The windy side of a building needs more heat than the sheltered side. Shaded rooms need more heat than sunny ones. Heating requirements are constantly changing, and modern indoor comfort can be provided only by room-by-room temperature control.

Room use also makes a difference. Combination living-study-sleeping rooms require different temperatures at different times. Different rooms may require different temperatures at the same time. Less heat is needed when a large number of people meet in one room. The SelecTemp system also brings the same precision heating control to classrooms, laboratories, gymnasium, kitchens, offices—all with individual and special heating needs.

The SelecTemp system is the answer. The temperature of each room is controlled simply by setting the thermostat on the SelecTemp room heating unit at the comfort level desired. The SelecTemp system saves fuel because heat can be turned down in unoccupied rooms. These rooms can be quickly reheated, when needed, by adjusting the thermostat.

**How SelecTemp works.** Each room heating unit has its own built-in thermostat, which is very sensitive to room temperature changes. The heating unit circulates filtered warm air, heated by steam supplied through small copper tubing. The same steam that heats the air also operates the circulating fan. Fans and thermostats are non-electric. No wiring required. Low pressure steam is supplied by an oil, gas or coal fired boiler, or from central steam lines.



SelecTemp room heating units are only 18 inches high and are recessed into the walls; take no floor space. Units can be painted to match walls. Heat is steady—temperature and volume of air are automatically modulated according to amount of heat needed.

Learn what SelecTemp heating can do in your existing or new buildings. Mail the coupon for more information

**IRON FIREMAN®**

**SelecTemp®  
HEATING**

**EVERY ROOM A ZONE**



MAIL THIS COUPON FOR FREE INFORMATION

IRON FIREMAN MANUFACTURING COMPANY  
3435 West 106th Street, Cleveland 11, Ohio  
In Canada, write to 80 Ward Street, Toronto, Ontario

- ☐ Please send SelecTemp catalog with specifications.  
☐ Arrange for brief demonstration of SelecTemp room unit, in actual operation, in our office.

Name

Address

City  Zone  State



# AJUSTRITE

## CHAIRS and STOOLS for

### CLASSROOM



Permits proper seat height for both standard and higher requirements.

### LABORATORY



AJUSTRITE was first designed and made specifically for laboratory use.

### VOCATIONAL



AJUSTRITE offers many advantages to the effectiveness of instruction and practice.



Model  
TSC 1520

A posture type chair with seat adjustment of 16" to 21", backrest horizontal and vertical adjustment of 5". Ideal for teaching and practicing posture in typing and other business classes. Some science classrooms and laboratories use this type to advantage. Also comes with higher adjustment ranges. Reasonably priced.

The most popular AJUSTRITE stool. Seat adjusts 18" to 27"—has 13" diameter steel seat; hardwood seat, backrest, floor glides optional. All metal construction for lifetime durability. This one stool meets most requirements in majority of laboratories and shops which would otherwise need several sizes of ordinary stools.

32 MODELS IN THE AJUSTRITE LINE



Model  
S 1837

#### GUARANTEED

against failure due to defective material or workmanship for a period of 10 years.

#### FREE TRIAL

Samples furnished for 30-day trial without obligation. Send for illustrated folder.

#### AJUSTO EQUIPMENT CO.

515 Connecticut St. • Bowling Green, Ohio



#### ADJUSTMENT

... to any Height Desired



## COOKING AND SEWING ROOM FURNITURE

For more than sixty years Peterson furniture has set the pace for style and design. Peterson engineers and leading educators, studying together the requirements of school furniture under actual working conditions, have built into each piece of equipment a quality and workability that has made Peterson the leading choice of educators for many years.

Our representative will gladly assist in any problem you may have ... or if you prefer, write on your letterhead for our illustrated catalog.

LEONARD **PETERSON** & CO., INC.

1228 FULLERTON AVENUE, CHICAGO 14, ILLINOIS

## College Education Doubles in Cost Since Prewar Years

WASHINGTON, D.C.—A recent survey by the U.S. Office of Education revealed that it now costs an average of \$1500 a year to send an undergraduate student to a public college, compared with \$747 in 1939-40. The cost of attending a private college now averages \$2000 a year, about double the prewar figure. More than 15,000 students from 110 colleges were covered in the random survey.

The survey, conducted by Ernest V. Hollis, attempted to determine how much a college education costs and who pays the bill. Figures include living costs, such as room, board and clothing, as well as tuition fees, books and other college costs. Base year for the survey was 1952-53. Projections for 1957 took into account the rising costs of living and higher college fees.

Living costs account for five-sixths of the total cost of attending tax supported colleges. At private institutions, this item was two-thirds of the total educational investment.

Of college students, 41 per cent are supported by their families, 29 per cent use their own savings, and 17 per cent support themselves. Other sources of support are scholarships (5 per cent), veterans' and vocational rehabilitation programs (5 per cent), loans (1 per cent), and miscellaneous (2 per cent).

Two-thirds of the men students work, earning an average of \$486 a year. Half of the women students are employed, averaging \$265.

## Carnegie Tech Launches Fund Raising Program

PITTSBURGH.—Officials of Carnegie Institute of Technology recently announced the launching of a \$24,350,000 building and development program. It is the first extensive fund raising project in the 57 year history of the institution. Objectives are to increase faculty salaries, get additional outstanding teachers, construct four new buildings, improve existing facilities, and make campus improvements.

Almost a third of the total to be raised will be used for expanding the faculty and increasing salaries, over the next 10 years.

Benjamin F. Fairless, chairman of the executive committee of the U. S. Steel Corporation, and Gwilym A.



# 4 SAMSONITE CHAIRS HOLD 3200-POUND CAR!



#### AS GOOD AS NEW!

Here's one of the Samsonite chairs used in the test shown above. All its quality features are intact—still in perfect working order! Even the baked enamel finish remains unscratched.

#### IN ACTUAL TEST

*Samsonite proves it is strongest  
folding chair for every use!*

The car you see here rested its full weight of 3200 pounds on 4 Samsonite all-steel folding chairs—but it couldn't buckle them, couldn't harm them at all! The Samsonite chairs stayed as strong and firm as ever!

Chairs that can take this kind of treatment make the safest, most practical chairs for any use! But Samsonite is even more than the strongest chair—it's the *smartest*, too! Designed in 10 beautiful decorator colors, Samsonite all-steel folding chairs brighten and enrich every room!

Write for Samsonite's new Institutional Seating Catalogue...today!

**Samsonite** *all-steel folding chairs  
in 10 decorator colors*

Shwyder Bros., Inc., Institutional Seating Division, Dept. CU-5, Detroit 29, Mich. Also makers of famous Samsonite Luggage, Classroom Furniture and Card Tables and Chairs for the Home. Also available in Canada through Samsonite of Canada Ltd. Queens Highway East, Stratford, Ontario



Price, chairman and president of the Westinghouse Electric Corporation, announced the fund raising project in their capacity as co-chairmen.

### Emphasize College Needs in Nationwide Campaign

NEW YORK—A nationwide advertising campaign in behalf of higher education was begun in April under the joint auspices of the Advertising Council of America and the Council for Financial Aid to Education.

The public is being told the need of \$500 million more a year to provide

for the six million students anticipated in the next 10 years.

At the opening of the campaign, Dr. Wilson Compton, president of the Council for Financial Aid to Education, advised the colleges to "make fund raising hay while the advertising sun shines." Campaign material has been developed by N. W. Ayer and Son, Inc., and is available for the campaign without charge.

Kenneth G. Patrick, manager of educational relations for General Electric, is the campaign's volunteer coordinator.

### Ford Foundation Grants \$25 Million to Recruit New College Teachers

NEW YORK.—The Ford Foundation recently announced allocation of \$25 million to recruit college teachers in an effort to meet the growing shortage and to avert a severe crisis when college enrollments rise sharply.

Under the proposed program, 1000 fellowships a year for five years will be provided for prospective college teachers to do graduate work. This program will operate across the country through the extension and development of the existing National Woodrow Wilson Fellowship Program.

This is said to represent education's largest attempt to compete with private business in recruiting the most promising graduates from American colleges and universities.

A total of \$11 million of the allocation is for individual awards for tuition and living expenses for the first year of graduate study. The recipient can pick his own place of study; individual awards are expected to be about \$2200.

Another \$10 million will be allocated to universities for aid to graduate students beyond the first year, especially in the final year. The nationwide recruiting program is expected to cost about \$2,800,000, with another million dollars available for administration. In the meantime, \$200,000 is to finance an immediate increase of 100 Woodrow Wilson Fellowships for the fall of 1957.

Recruitment will come largely through some 100 faculty members giving about a third of their time to stimulate faculty cooperation on approximately 1000 campuses. Fellowship nominations will be made by local faculty members, with regional committees and a national committee, all composed of faculty members, making the final selections.

### Polish College, Facing Bankruptcy, Seeks Aid

WARSAW, POLAND.—The University of Lublin here is in financial difficulty and will soon "go bankrupt," according to its rector, the Rev. Marian Rechowicz.

"Our only funds," he adds, "are the 7 million zlotys (\$290,000) that we receive from the friends of the university and the 1 million zlotys (\$41,000) that come from abroad, mostly from

## SPENCER Vacuslot...



### The MODERN Cleaning System

A Spencer Vacuslot system incorporating a centrally located vacuum producer and dirt separator ... with piping throughout the building ... speeds routine maintenance, greatly improves sanitation.

Large dust mops can be used to push dirt and litter to the Vacuslot, where high-suction Spencer vacuum whisks it away. Mops are vacuum cleaned at the Vacuslot, eliminating any dissemination of dust or germs into the air.

Other cleaning tasks a Spencer Vacuslot simplifies:

- WET PICK-UP—A light, portable separator tank permits using the Vacuslot system for quick, complete pick-up of accidental spillage or suds from scrubbing machines.
- BOILER CLEANING—Spencer vacuuming of boiler tubes provides proven fuel savings up to 20%.
- VACUUMING—Stairs, entryways, Venetian blinds, walls, furniture are quickly and completely cleaned with Spencer vacuum. Attaching hose to Vacuslot valves is as quick and simple as plugging into an electrical outlet.



Bulletin 133B describes Spencer Vacuslot system, shows equipment in use. Request your free copy.



New Color Movie Illustrates Spencer vacuum systems in operation. Write advising date you would like a showing.

**SPENCER**  
HARTFORD

**The SPENCER**  
**TURBINE COMPANY**  
HARTFORD 6, CONNECTICUT

ALSO PRODUCERS OF COMPLETE LINE OF PORTABLE VACUUMS



COMMERCIAL  
P125  
1 H.P.



MULTI-VAC  
P115  
2 1/4 H.P.



MODEL  
P119  
7/8 H.P.



MULTI-VAC JR.  
P111  
1/2 H.P.





## SIR LAUNCELOT LAUDS A LEADER!

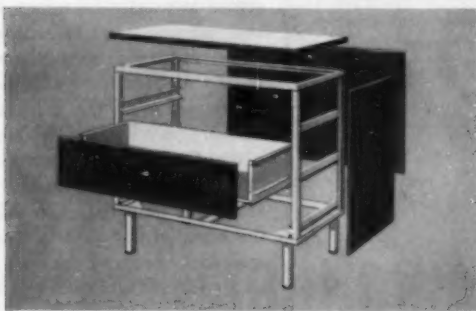
Built-Ins in new **WOODRIDGE... by Royal!**—a new and stimulating space-saving concept of dormitory room arrangement.

Here's an off-the-floor combination of two Wardrobes, three Storage Cabinets, a Six-Drawer Chest and Mirror all making up a single unit that is quickly and easily installed. Wardrobes and Cabinets may be

30", 36", or 48" wide. All are 24½" deep. Height is 95½", overall—just right for 8-ft. ceilings.

**WOODRIDGE... by Royal** has "skyscraper" steel inner-frames and individually removable wood panels and plastic tops for simplified maintenance. "The Beauty of Wood... The Strength of Steel" now can be yours in Single Dressers, Double Dressers, Desks, Nightstands, Beds, and Built-Ins—all in good-looking, new **WOODRIDGE... by Royal**.

*A request on your school letterhead  
will bring you complete information promptly.*



*Dealers and Showrooms Coast to Coast*



**ROYAL METAL MANUFACTURING COMPANY**

1 Park Avenue, New York 16, N.Y., Dept. 19-F

In Canada: Royal Metal Manufacturing Co. Limited, Galt, Ontario



Poles in the United States and from the clergy in France. About 2 million zlotys come from the Roman Catholic Church collections. We have never received state assistance."

Recently, the salaries of the university faculty were raised at the order of the Communist government, but no provision was made for increasing the income. As a result, salaries now consume 70 per cent of the budget as against the former 30 per cent.

It was hoped by Lublin University officials that some of the wealthier universities of the West might be able to assist Lublin to solve its problems.

### Ohio State Clarifies Rules on Nonresidents

COLUMBUS, OHIO.—Ohio State University on April 8 adopted a clarification of its rules for determining whether an applicant for enrollment is a nonresident of the state. More than 3000 students from other states and countries annually enroll in Ohio State and pay the nonresident fee of \$125 quarterly.

Adopted by the board of trustees on recommendation of President Novice G. Fawcett, the reworded rules specify that "two conditions must be

present" in determining that a student is a resident of Ohio. "First, it is necessary that the adult student (over 21) or the parents of a minor student have been in the state a minimum period of one year prior to the original enrollment; and second, that there is an evident present intent to stay in the state indefinitely."

On the question of "intent to stay in the state," the new rules say: "Normally persons who wish to establish domicile shall do all of those things a person does in making a place a permanent home, such as obtaining full-time employment, establishing a home, buying property (when feasible), transferring church membership (if any), affiliation with local organizations, and the various other things that give evidence of intent to remain indefinitely within the state."

Under the new rules married students, even though under 21, are considered in the same status as adult students.

On the subject of "married men," the new rules state: "The fact that a young man is married, may have established a home and bought property in the state of Ohio may tend to give support to the claim that there is an in-

tent to remain in Ohio. This in itself, however, is not proof of domicile because these activities are also necessary to support his family. Unless the student can show that his main purpose is to make his permanent residence in Ohio at the time of his marriage, and that going to school is incidental to that main purpose, he will be classified as a nonresident."

### Continue Research of TV for Education

ANN ARBOR, MICH.—The Educational Television and Radio Center will continue to help research groups investigate the various uses of television for education during 1957-58, H. K. Newburn announced.

President Newburn said the center will make individual awards of from \$500 to \$5000 each to help qualified research groups in studying uses of TV for education. Last year the center awarded grants totaling \$35,000 in partial support of 10 research projects.

New grants will be given in support of investigations into the uses of television in the classroom; for studies of the impact of special programs on TV audiences; for identification of distinctive attributes of the medium as an educational tool, and for follow-up studies of previous research.

"The center will not cover full costs of any studies," President Newburn pointed out, "but hopes that the awarding of grants-in-aid will help to initiate new research and continue projects already in progress. The center is not a research organization but is interested in stimulating studies in educational television."

### Pitt Announces New Faculty Benefits

PITTSBURGH.—Chancellor Edward H. Litchfield of the University of Pittsburgh recently announced a major increase in faculty insurance, health and retirement benefits as another step toward accomplishment of new goals in faculty support and encouragement.

Coupled with the disclosure of the new program was the announcement of a flat 5 per cent salary increase for members of the university's academic staff. The university also will pay half the costs of the catastrophic medical insurance program and will match larger faculty contributions to the retirement program.

It is estimated the university's added annual cost for the new benefits will

## EASE PARENT BURDEN OF RISING EDUCATION COSTS

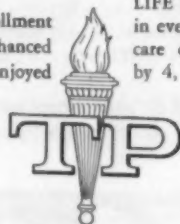
As costs of tuition, room and board rise unavoidably, more than 500 colleges and schools have helped parents meet this problem by adopting The Tuition Plan. The Plan operates at no expense to the college. It offers parents a welcome alternative to lump-sum payments—a convenient monthly payment Tuition Plan contract.

In addition to a fully-paid enrollment at the start of every term and enhanced parent good will, colleges have enjoyed

these new benefits of The Tuition Plan: COLLEGE HAS NO FINANCIAL LIABILITY . . . on parent-signed contracts, colleges need not refund in event parent defaults on contract.

A FOUR, THREE OR TWO YEAR PLAN . . . now may be offered under one flexible contract.

LIFE INSURANCE INCLUDED . . . in event parent dies, life insurance takes care of total remaining costs covered by 4, 3 and 2 year contracts.



Write today for descriptive brochure.

## THE TUITION PLAN, INC.

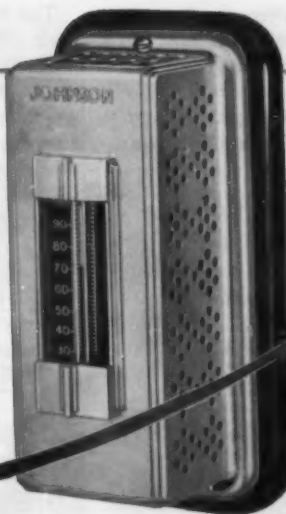
347 FIFTH AVENUE, NEW YORK 16, N. Y.



*all around the Campus...*

*it's*

# JOHNSON Pneumatic Control



Petroleum Building—99 Johnson Thermostats direct operation of the heating system and permit room-by-room regulation of temperatures. Other Johnson controllers operate mixing dampers on 8 central fan systems.



Library—11 central fan systems and the heating system are accurately controlled by a Johnson System to provide ideal study conditions and protect valuable library materials. This is the school's newest building.



Chemistry Building—A thermostat on the wall of each room assures ideal temperatures throughout the building. The Johnson System also meets the special need for controlled ventilation in the laboratories and auditorium.

Since 1908, Johnson Pneumatic Temperature Control has been a part of the building program at Colorado School of Mines, Golden, Colorado. Today, every building on the campus that is equipped with automatic temperature control has a Johnson Pneumatic System.

Hundreds of other colleges and universities, too, have found how simply and economically a Johnson Control System solves their air conditioning, heating and ventilating control problems. In class rooms, laboratories, dormitories, libraries, gymnasiums and other types of buildings, Johnson provides dependable control for every purpose.

Let an engineer from a nearby Johnson branch office show you, your architect or consulting engineer how you, too, can enjoy maximum temperature control efficiency in your campus buildings. Johnson Service Company, Milwaukee 1, Wisconsin. Direct Branch Offices in Principal Cities.

## \*Colorado School of Mines Buildings with Johnson Pneumatic Control

- Apartments and Residences for Faculty
- Chemistry Building
- Geology Building
- Dormitory
- Gymnasium
- President's Residence
- Library
- Mining Building
- Petroleum Building
- Guggenheim Hall, Administration
- Stratton Hall—Mechanics & Engineering
- Engineering Building
- Physics Building

# JOHNSON CONTROL

PNEUMATIC SYSTEMS

PLANNING • MANUFACTURING • INSTALLING • SINCE 1885



be \$155,000. The over-all salary increase, plus individual merit raises to faculty members who have demonstrated outstanding professional attainment and growth, will add approximately \$330,000 to Pitt's annual academic payroll.

### Union College to Raise Tuition Next Fall

SCHENECTADY, N.Y.—In an effort to improve salary scales and to meet rising costs of operation, Union College will raise its tuition by \$100, effective in the fall.

The increase, first at Union College since 1955, will bring tuition rates up to \$900 for liberal arts students and up to \$1000 for engineers. The change will be progressive, however, and will not affect the classes of 1958 and 1959, next year's juniors and seniors.

"The decision to increase our tuition rates this year," Walter C. Baker, chairman of the board of trustees, said, "was necessitated by the growing inflationary pressures of our American economy. The added income from this and other sources, namely, the alumni gift fund and the big Ford Foundation

grant of 1956, will enable the college to add more than \$100,000 to the salaries, wages and insurance benefits of its personnel."

Union received more than \$500,000 from the Ford Foundation in June 1956 and will receive an equal amount this year. Alumni contributed more than \$52,000 to the 1956 gift fund for support of faculty salaries, an increase of several thousand dollars over the amount earmarked for that purpose in 1955.

### \$6½ Million in Gifts to University of Houston

HOUSTON, TEX.—The University of Houston recently received gifts totaling \$6½ million for the construction of a college of engineering building and for creation of six chairs for distinguished professors.

Mr. and Mrs. Hugh Roy Cullen, through their Cullen Foundation, made a gift of \$5 million for the engineering building. As in the foundation's previous gifts to the university, the Cullen donation was in the form of oil bearing lands. The foundation, however, will borrow \$4 million to provide for an immediate start on construction of the engineering building.

The gift brought to a total of about \$30 million the Cullen gifts to the university, all in the form of oil bearing lands.

The M. D. Anderson Foundation gave the university \$1½ million for the six professorships.

# TOLEDO

## SCHOOL FURNITURE FOR SPECIALIZED NEEDS



Modern cafeteria equipped with strong, attractive Toledo Tables and Chairs.

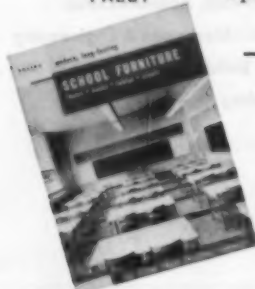


University electronics laboratory equipped with Toledo Chairs, Stools and Tables.

**CHAIRS • STOOLS • DESKS • TABLES • MACHINE STANDS**  
for cafeterias, commercial departments, laboratories, other special uses

Attractive design, durable construction and flexibility make TOLEDO school furniture ideally suited to meet your specialized requirements.

Toledo furniture, backed by over 60 years of metal-engineering experience is already serving over 100 major colleges and universities, who have specified it to minimize maintenance and make operating dollars go farther.



**THE TOLEDO METAL FURNITURE COMPANY**  
1030 South Hastings Street  
Toledo 7, Ohio, Dept. AS

Send TOLEDO School Furniture booklet to:

NAME \_\_\_\_\_ TITLE \_\_\_\_\_  
SCHOOL \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_

### NAMES IN THE NEWS

Dr. John E. Ivey Jr., director of the Southern Regional Education Board at Atlanta, Ga., has been named executive vice president of New York University.



John E. Ivey Jr.

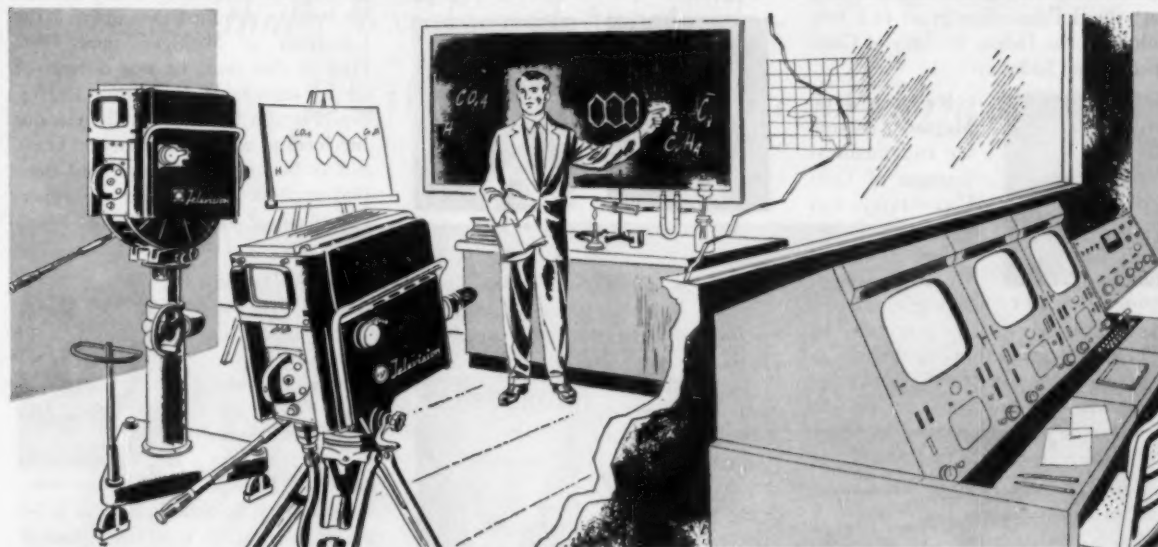
Dr. Carroll V. Newsom announces. Dr. Ivey will take office June 1, filling the post vacated last October when Dr. Newsom was elevated to the N.Y.U. presidency.

Katherine Brownell Oettinger, dean of the school of social work at Boston University, has been appointed by President Eisenhower to the post of chief of the Children's Bureau of the Department of Health, Education and Welfare.

Dr. Raymond Ewell, former assistant director of the National Science



One of a series explaining the successful application of television to education.



2 CAMERAS—choice of vidicon, image orthicon or color cameras

CONTROL CONSOLES for video and audio

## Effective Instruction via TV Begins with a Television Teaching Studio

A well-equipped *teaching studio* is essential to the success of television in education. Designed to meet the requirements of good TV practice, such a *studio* is the source of programs to classrooms. It has good acoustics and proper lighting to assure a high level of presentation, and will provide pictures of consistently good quality which flow smoothly throughout a TV lecture session.

A basic high-fidelity television teaching studio, with associated control room, is illustrated. Studio is equipped with two cameras and microphones. The use of two cameras facilitates a variety of picture material—close ups, long shots, visual aids, settings. Switching from camera to

camera provides a change of pace to spark program interest and promote fullest attention from students. Control room is equipped with video and audio controls and switching facilities. This equipment can be readily expanded, as your plans develop and your goals increase, giving you needed supplementary facilities and protecting your investment far into the future.

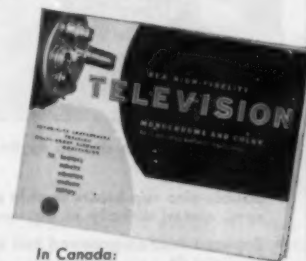
If this concept of education by television strikes a responsive chord in your plans for progress, you will want to know more about RCA High Fidelity Television Systems. As a result of years of television experience, Radio Corporation of America is in a position to be of outstanding assistance in applying TV to teaching.

For an informative brochure on RCA High Fidelity Television Systems, write to Educational Administrator, Television Equipment, Dept. S-34, Radio Corporation of America, Building 15-1, Camden, N. J.



**RADIO CORPORATION of AMERICA**

Broadcast and Television Equipment  
Camden, N. J.



In Canada:  
RCA VICTOR Company Limited,  
Montreal



Foundation, was recently appointed vice chancellor of the University of Buffalo, Buffalo, N.Y. Dr. Ewell is presently in New Delhi, India, serving on a Ford Foundation grant as a consultant to the Indian Ministry of Commerce and Industry.



Raymond C. Magrath

**Raymond C. Magrath**, controller and business manager of Tufts University, has been named controller of Springfield College, Springfield, Mass. He will take over the post held by **Albert Neale**, who resigned the first of this year. Prior to Mr. Magrath's appointment at Tufts University, he was treasurer of the University of New Hampshire, from 1927 to 1955.

**Carl R. Barnes**, executive accountant, has been named controller of Pennsylvania State University. He succeeds **Dr. Kenneth R. Erfft**, who resigned to accept appointment as controller of Rutgers University, New Brunswick, N.J. **Dr. Eric A. Walker**, president of Penn State, also announced the appointment of **Ossian R. MacKenzie**, dean of the college of business adminis-

tration, to the additional post of vice president for business administration. **Dean MacKenzie** will be responsible for general supervision of the physical



Carl R. Barnes



O. R. MacKenzie

planning of construction and the operational activities of the university, including housing, personnel, employee relations, food service, purchasing and physical plant.

**Dr. Arthur L. Brandon**, director of university relations at the University of Michigan, will become vice president for university relations at New York University this summer. He will aid in developing general public relations policies for the institution. He also will coordinate such related activities as public information, publications, photo-



Arthur L. Brandon

graphic services, and public service radio and television programs, and will assist the president in certain phases of general administration. **Dr. Brandon** has been an administrative officer at the University of Michigan since 1946. Prior to that time, he was director of special services at Vanderbilt University. He also has held public relations directorships at the University of Texas and at Bucknell University, and from 1935 to 1939 helped direct the American Council on Education's Youth Commission.

**Carl A. Donaldson**, director of purchases at the University of Nebraska, Lincoln, has been appointed business manager of the university. He will succeed **John K. Selleck**, who is to retire in July. At the same time **Chancellor C. M. Hardin** announced that **Dr. Joseph Shoshnik**, who is director of the



Carl A. Donaldson



Joseph Shoshnik



E. O. Ingram

department of management and university auditor at Creighton University in Omaha, will become controller of the University of Nebraska. **Eugene O. Ingram**, assistant to the director of purchases and procurement at Nebraska, has been made director of purchases. He will succeed Mr. Donaldson.

**Dr. Eugene E. Dawson**, dean of administration and students at Kansas State Teachers College, Pittsburg, is to be president of Colorado Woman's College, Denver, succeeding **Dr. Val H. Wilson**, who this summer becomes head of Skidmore College, Saratoga Springs, N.Y.

**Wilbur E. Couchie**, business manager at Mount Union College, Alliance, Ohio, is serving as chairman of the Ohio group of the National Association of Educational Buyers and also as chairman of the Ohio Association of College and University Business Offi-



Wilbur E. Couchie

## POWERFUL NEW PLUNGER CLEARS CLOGGED TOILETS IN A JIFFY!



Clear messy, stuffed toilets  
Cut maintenance costs with

**'TOILAFLEX'**  
Toilet **ALL-ANGLE** Plunger

Ordinary plungers don't seat properly. They permit compressed air and water to splash back. Thus you not only have a mess, but you lose the very pressure you need to clear the obstruction.

With "TOILAFLEX", expressly designed for toilets, no air or water can escape. The full pressure plows through the clogging mass and swishes it down.

Order a "TOILAFLEX" for your own home too.  
Positive insurance against stuffed toilet.

**\$265** Fully  
Guaranteed

Order from your Supplier of  
Hardware or Janitor Supplies

- Accordion-action design to flex at any angle
- Double-size cup blasts double pressure, aimed directly at obstruction
- Tapered suction-grooved tail gives air-tight fit

**THE STEVENS-BURT CO., NEW BRUNSWICK, N. J.**

A Division of The Water Master Company



*beauty that's flexible and practical—*

## SLIMLINE *furniture for dorm rooms*



Here's a line of dormitory room furniture that combines comfort and beauty with the easy maintenance of all-steel welded construction. It's the new Slimline furniture by Simmons.

Slimline design (by Raymond Spilman, A.S.I.D.) is modern and clean looking. Finishes come in a wide range of harmonizing colors, with matching tops of wear-defying Textolite. Furniture combinations permit wide flexibility in room arrangements.

Slimline furniture by Simmons will keep dorm rooms looking new and inviting for years. Write to your nearest Simmons office for complete information, including typical room plans.



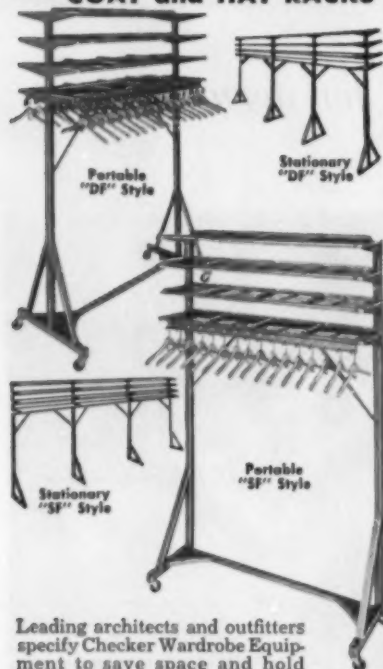
Standard desks in four sizes can have file drawers or bookcases attached to the steel frame.



DISPLAY ROOMS: Merchandise Mart, Chicago 54; One Park Avenue, New York 16; 295 Bay St., San Francisco 11; 353 Jones Ave., N.W., Atlanta 1; 8600 Harry Hines Blvd., Dallas 9; 1275 Kinnear Rd., Columbus 8; 3217 S. Garfield Ave., Los Angeles 22.



## Checker® COAT and HAT RACKS



Leading architects and outfitters specify Checker Wardrobe Equipment to save space and hold wraps in an efficient, sanitary and orderly manner. Hats rest on high ribbed, slotted shelves. Spaced hangers keep coats apart, open to light and air, visible and instantly available. SF Style units accommodate 4 or 5 persons per foot. DF style units accommodate 8 or 10. 3'2", 4'2" and 5'2" long "portable" units go wherever needed on large casters. "Stationary" units come on glides and can be anchored to floor. "WM" Style racks mount directly on any wall. All Checker racks are correctly engineered to interlock on left or right and to stand up under a full load. They will not tip over, sag, sway, creak or wobble. Built for lifetime service of strongly welded heavy gauge steel and square tubing and beautifully finished in modern baked on colors. They are vermin-proof and fireproof.

### Style WM wall RACKS



### Exclusive Checker Features



Write for Bulletin CK-16

**VOGEL-PETERSON CO.**  
1127 W. 37th Street • Chicago 9, Ill.

cers. This is thought to be the first time in the history of both professional groups that the chairmanship has been held concurrently by the same person. Mr. Couchie has been business manager at Mount Union College since July 1950, when he succeeded Ronald G. Weber, now vice president of finance.

Robert D. Buchanan has been named assistant director of food service at Kent State University, Kent, Ohio. Mr. Buchanan has had previous experience in commissary work as a cafeteria manager and as a U.S. Army food inspector.

Nellie A. Gleason, director of foods at Grinnell College, Grinnell, Iowa,

since 1942, will assume additional duties July 1 as director of foods and residence halls.

Msgr. R. Vincent Kavanagh, 51, president of Carroll College, Helena, Mont., died last month in a Denver hospital. He had undergone a brain operation on March 12.

Col. Arthur E. Fox, U.S. Army retired, since 1945 assistant to Dr. Harold W. Dodds, president of Princeton University, died recently after a long illness. He was 65 years old.

Mary Alice Currier, director of food service at Barnard College for the last eight years, died in her sleep in her apartment on the Barnard campus, New York. She was 60 years of age.

## DIRECTORY OF ASSOCIATIONS

### National Federation of College and University Business Officers Associations

President: Nelson A. Wahlstrom; University of Washington; vice president: Thomas E. Blackwell, Washington University, St. Louis; secretary-treasurer: C. H. Wheeler III, University of Richmond.

### College and University Personnel Association

President: James N. Ewart, California Institute of Technology; secretary-treasurer: Shelton F. King, Carnegie Institute of Technology; executive secretary: Donald E. Dickson, University of Illinois. Permanent headquarters, 809 S. Wright St., Champaign, Ill.; Kathryn Hansen, editor, C.U.P.A. Journal. Convention: Aug. 4-7, University of Colorado, Boulder.

### National Association of Educational Buyers

President: M. T. Tracht, Illinois Institute of Technology; executive secretary: Bert C. Ahrens, 1461 Franklin Ave., Garden City, N.Y.

### National Association of College Stores

President: Ray Vanderhoef, Iowa Supply Co., Iowa City, Iowa; general manager: Russell Reynolds, Box 58, 33 West College Street, Oberlin, Ohio.

### National Association of Physical Plant Administrators of Universities and Colleges

President: A. F. Gallistel, University of Wisconsin; secretary-treasurer: A. F. Gallistel, University of Wisconsin. Convention: May 13-15, Temple University, Philadelphia.

### Association of College and University Housing Officers

President: Donald W. Kilbourn, Central Michigan College; secretary-treasurer: Leonard A. Schadt, University of Michigan. Convention: Aug. 4-7, Ypsilanti, Mich.

### Associations of College and University Business Officers

#### American Association

President: Harold K. Logan, Tuskegee Institute; secretary: B. A. Little, Southern University.

#### Central Association

President: Parker Hall, University of Chicago; University of Oklahoma; secretary-treasurer: Ralph Olmsted, Evansville College, Evansville, Ind.

#### Eastern Association

President: John Schlegel, Lafayette College; secretary-treasurer: Kurt M. Hertzfeld, University of Rochester.

#### Southern Association

President: Claude M. Reaves, Huntingdon College; secretary: C. O. Emmerich, Emory University.

#### Western Association

President: Glen C. Turner, Colorado State College of Education; secretary: Harry E. Brakebill, San Francisco State College.

### Canadian Association of University Business Officers

President: B. F. Macaulay, University of New Brunswick; secretary-treasurer: F. J. Turner, Carleton College.

### American College Public Relations Association

President: Lynn Poole, Johns Hopkins University; executive secretary: W. Noel Johnson, 1785 Massachusetts Ave., Washington, D.C. Convention: June 24-27, Hotel Fontenelle, Omaha, Neb.

### Association of College Unions

President: Earl E. Harper, State University of Iowa; secretary-treasurer: Edgar A. Whiting, Cornell University; editor of publication: Porter Butts, University of Wisconsin.





## RASTETTER

Solid Kumfort Chairs  
That Fold  
in the Auditorium.



Attractive Stage Setting with Solid Kumfort Chairs.

# **SOLID KUMFORT** *Chairs that fold* in the **OTHO WINGER MEMORIAL BUILDING** Manchester College, North Manchester, Indiana

**SOLID KUMFORT** Chairs That Fold were chosen for this beautiful Memorial Building at Manchester College because of the real comfort they provide. They are beautifully styled and attractive in appearance yet ruggedly built for a lifetime of service. Select hardwood frames and the famous Rastetter Hinge and Brace construction make them far stronger than conventional chairs of equal weight. They may be moved easily and quickly where rooms are used for several purposes . . . or stored in a small space.

Many attractive styles in Wood and Magnesium are ideal for use in schools, auditoriums, cafeterias, hospitals, hotels and clubs, where use often means abuse. Write for Portfolio showing complete line and giving many interesting facts on better seating.

## **LOUIS RASTETTER & SONS COMPANY**

1326 WALL STREET

FORT WAYNE 1, INDIANA

MODEL  
492



FOLD  
FLAT



The Otho Winger Memorial  
Building at Manchester College.





## Harvard Approves Broad Health, Safety Program

CAMBRIDGE, MASS.—Improved medical insurance, including as much as \$10,000 of help in a "catastrophic" illness, will be available to all faculty members and employees of Harvard University beginning July 1. Their wives (or husbands) and children will be eligible, too.

The university, through its various schools, will bear about 40 per cent of the cost of insurance. It also will provide other services.

The purpose is, first, to maintain maximum health for all students, faculty members and employees of the university, and then to give maximum assistance to those who face major medical and hospital bills.

The over-all medical program for the university follows earlier steps to maintain student health. All students receive a physical examination on entrance into the university, and the university provides diagnosis, emergency treatment, and infirmary care for all students, for which each pays \$56.50 for the academic year, including insurance.

Medical and hospital insurance was provided in 1955 for students in all parts of the university. This pays up to \$1500 for medical costs of each illness anywhere in this country or abroad. It pays \$19 a day for hospitalization. A student may extend his coverage through the summer months. In Harvard College, 99 per cent of the students have enrolled in the plan, while in the entire student body of the university, 10,500 in all, about 90 per cent are enrolled. Nearly a thousand married students have also insured their dependents in this plan.

## Wesleyan Pays Fees of Employees' Children

MIDDLETON, CONN.—Wesleyan University recently announced that it will pay tuition of children of its employees and faculty to the school of their choice. The tuition payment will not exceed Wesleyan's own tuition rate of \$800.

Wesleyan will gradually withdraw from the college exchange plan that allows faculty children to attend other schools tuition free.

Wesleyan officials explained that, under the exchange program, it was not always possible for children of employees and faculty to attend the school of their choice.

# classified advertising

## POSITIONS WANTED

**Bookstore Manager-Purchasing Agent**—45 years old, college graduate, several years experience; also experience with university printing and public relations department. Write CW 311 COLLEGE AND UNIVERSITY BUSINESS.

**Bursar, Accountant**—Excellent qualifications and experience; personal record of highest calibre; Major, honorary retired list, Marine Corps Reserve; prefer to have wife (Master's Degree in mathematics and experienced bookkeeper) as unpaid assistant, which was our arrangement for past five years in accredited graduate school. Write Box CW 343, COLLEGE AND UNIVERSITY BUSINESS.

**Business Manager**—Nine years experience in liberal arts college; experience in accounting, budget control and preparation, plant maintenance, purchasing and auxiliary enterprises; have family; good health; reason for change, professional advancement. Write Box CW 324, COLLEGE AND UNIVERSITY BUSINESS.

**Business Manager**—Experienced; success in managing government construction; proven ability in financial reports, investments, supervision purchasing, bookstore, maintenance, dining hall; desires change. Write Box CW 329, COLLEGE AND UNIVERSITY BUSINESS.

**Business Officer**—Broad experience business management; State and Protestant supported institutions; desire situation challenging ability develop better business management. Write Box CW 334, COLLEGE AND UNIVERSITY BUSINESS.

**Controller—Business Manager—Treasurer**—Successful college treasurer and business manager fourteen years, college teaching in business administration five years, experienced in accounting, budget preparation and control, financial reporting, purchasing and plant maintenance; have understanding and imagination; presently employed in college; desires change. Write Box CW 314, COLLEGE AND UNIVERSITY BUSINESS.

**Engineer**—Experienced in electrical construction, maintenance, design of power and lighting systems, theatre lighting, desires position in physical plant administration of college or university. Write Box CW 323 COLLEGE AND UNIVERSITY BUSINESS.

**Food Administrator**—Twelve years college and institutional experience; experienced in budget control and personnel development; married; 35; veteran; desires larger operation; available after May. Write Box CW 293 COLLEGE AND UNIVERSITY BUSINESS.

**Food Service Director**—Affable, honest, industrious, resourceful; college graduate in food management; varied top hotel and restaurant experience; can guarantee excellent food at moderate cost; currently employed four years as college food director; complete resumé and photograph available. Write Box CW 322 COLLEGE AND UNIVERSITY BUSINESS.

**Superintendent of Buildings and Grounds**—Eleven years experience as superintendent in small college plus twenty years experience in maintenance, construction, planning, purchasing and supervision; engineering training; prefer southwest or west coast location in small college. Write Box CW 342, COLLEGE AND UNIVERSITY BUSINESS.

## POSITIONS OPEN

**Accountant**—To take complete charge of office operations in private liberal arts college; responsibilities include disbursements, accounts receivable control, reporting and general accounting; some college accounting experience necessary. Send inquiries to Treasurer, ALLEGHENY COLLEGE, Meadville, Pennsylvania.

**Assistant Dietitian**—To help experienced dietitian with food buying, meal planning, preparation and service in established co-educational boarding school near Philadelphia; staff of twenty plus student workers; excellent opportunity; chance for advancement; salary plus room and meals; live in; start September 1st. Write for interview, Box CO 224, COLLEGE AND UNIVERSITY BUSINESS.

**Assistant Director of Dining Halls**—Large midwest university; we are expanding our feeding facilities and have immediate opening for man in his 40's whose training and experience qualify him to take over managerial duties in future; good salary; send photo and full details to Box CO 220, COLLEGE AND UNIVERSITY BUSINESS.

**Buildings and Grounds Superintendent**—Position available September; full responsibility when present superintendent retires June 1958; mechanical background and previous college experience preferred; salary open. Send full details to Business Manager, GRINNELL COLLEGE, Grinnell, Iowa.

**Chief, Plant Operations**—Man, preferably between 35 and 45, for position in leading college in New York State; broad administrative responsibility; experience necessary in all phases of plant operation, maintenance and alterations, supervision of custodial services. Send complete resumé of background and experience to Box CO 225, COLLEGE AND UNIVERSITY BUSINESS.

**Director of Food Service**—September 1, 1957—Woman, college graduate, A.D.A. preferred, for women's college, New York city; must be experienced in food service management with knowledge of menu planning, food purchasing, labor and food cost control, and records and reports necessary to operation of food services; include resumé of training and experience. Write directly to BARNARD COLLEGE, Columbia University, New York 27, New York, Attn: Mr. F. L. Abbott, Treasurer and Controller.

**Food Service Director**—College graduate; at least 5 years experience in food management, either commercial restaurant or institution; prefer man 25 to 40 year age bracket; permanent position with a growing concern; location in Pennsylvania; state salary expected. Write Box CO 221, COLLEGE AND UNIVERSITY BUSINESS.

**Mechanical Engineer**—For design of heating ventilating and air conditioning. Contact W. E. Jobusch, Physical Plant Department, PURDUE UNIVERSITY, West Lafayette, Indiana.

**University Bursar**—Young man, college graduate, to assume full responsibility of 12,000 student accounts, control of cash receipts, and direction of staff of ten or more persons; salary open. Send complete information, salary requirement, and recent photo to R. D. Strathmeyer, Asst. Vice Chancellor for Business Affairs, UNIVERSITY OF BUFFALO, Buffalo 14, New York.

The rates for classified advertisements are: 20 cents a word; minimum charge, \$4. (No charge for "key" number.)

COLLEGE AND UNIVERSITY BUSINESS

919 N. Michigan Avenue, Chicago 11, Ill.



# HOW LONG CAN YOU DISREGARD YOUR SPACE PROBLEM?

American educators are today faced with the almost impossible task of providing facilities for handling the tremendous increase in demand for Higher Education.

Reams have been written about this need . . . but little of a constructive nature has been done to determine whether existing facilities are being used to their practical maximum.

**S.U.A. Inc., HAS PIONEERED A NOW PROVEN CONCEPT OF  
SPACE UTILIZATION FOR HIGHER EDUCATIONAL INSTITUTIONS.**

This concept can show you:

**HOW TO** effectively increase enrollment without the need for new buildings.

**HOW TO** effect maximum utilization of existing space in classrooms and laboratories.

**HOW TO** make every single Budget dollar s-t-r-e-t-c-h by creating new facilities to functionally and effectively service more students.

**HOW TO** serve your College best . . . with a detailed, projected analysis blueprinting tomorrows student growth and space needs—year by year.

Why not find out exactly what Space Utilization Analysis can do for you?  
An S.U.A. Consultant will be happy to discuss this matter with you in person. Simply phone or write us and arrange a meeting.

**SPACE UTILIZATION ANALYSIS FOR GOVERNMENT, INDUSTRY & EDUCATION**

A Division of Michael Saphier Associates, Inc.  
18 East 48th Street, N. Y. 17, N. Y. PLaza 9-3830





# CONTEMPORARY DRAMA *Stars* GLASS

Speech Arts Bldg., Orange Coast College, Costa Mesa, Calif.  
R. J. Neutra & R. E. Alexander, Architects.  
Richard H. Pieger, Supervising Architect.  
Thompson Paint & Glass Co., Glazing Contractor.

## Structural Corrugated Glass Enhances Exterior... Screens Interior of College Building

Architect Richard J. Neutra has achieved an exterior treatment as dramatic as a Broadway hit with this striking installation of rhythmic, translucent Structural Corrugated glass. This modern material, rapidly gaining favor in contemporary structures, is an accomplished performer in daylighting. It effectively screens with light instead of darkness... floods protected areas with softened, diffused daylight. Translucent without being transparent, Structural Corrugated glass protects privacy beautifully. Practical as well as pretty, it lends itself especially well to today's designs and needs.



Make light a part of your plans. Specify Structural Corrugated glass or choose any of the wide variety of patterns and surface finishes by Mississippi. Available everywhere.

**MISSISSIPPI  
GLASS COMPANY**

88 Angelica St. • St. Louis 7, Mo.  
NEW YORK • CHICAGO • FULLERTON, CALIFORNIA



Write today for free  
literature. Address  
Dept. 27.



WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS



# WHAT'S NEW

May 1957

Edited by Bessie Covert

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 106. Circle the key numbers on the card which correspond with the numbers at the close of each description item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

## Built-In Wardrobe Unit Saves Space in Dormitory

A complete built-in unit for dormitories is now available in the Woodridge



wood and steel furniture line. The modern space-saver includes two wardrobes, three overhead cabinets and a six-drawer dresser and mirror in one built-in unit which is quickly and easily installed. Modern in design and construction, the unit is 95½ inches high, making a full floor-to-ceiling built-in for rooms with eight-foot ceilings. All units are 24½ inches deep and wardrobes and cabinets are available in 30, 36, and 40-inch widths.

The Woodridge line is made of wood and metal, combining the beauty of wood with the strength of steel. Steel is used for the inner frames and the individually removable wood panels are available in Frosty Walnut or Imported Birch. Tops are of easily maintained plastic. Finger-grooved drawers eliminate the need for hardware although units with hardware are also available. Other items in the Woodridge line include single and double dressers, desks, nightstands and beds. Royal Metal Mfg. Co., 175 N. Michigan, Chicago 1.

For more details circle #782 on mailing card.

## MicroMist Oil Burner Cuts Fuel Costs

Savings on fuel costs are claimed through use of the new series of MicroMist oil burners recently introduced. The revolutionary new oil atomizing principle employed reduces even heavy No. 5 oil to a highly combustible microscopic mist, according to the report. The unit is said to operate efficiently with any grade of commercial fuel oil up to and including heavy No. 5.

The MicroMist burner is ignited by a simple, direct electric ignition system. Iron Fireman Mfg. Co., 3170 W. 106th St., Cleveland 11, Ohio.

For more details circle #783 on mailing card.

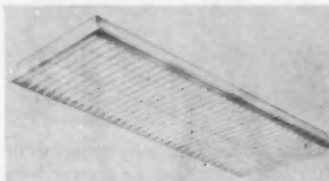
## Tubular Steel Mop Handles Have Plastic Grip

Warping, splintering and slivers are eliminated with the new tubular steel mop handle added to the Geerpres floor cleaning equipment line. The baked-red enamel finish resists scratching and rusting and the plastic handle grip assures positive mop control. The mop holder is electroplated and corrosion resistant. The new Tangleproof metal mop handles are available in standard lengths of 54 and 60 inches. Geerpres Wringer, Inc., P. O. Box 658, Muskegon, Mich.

For more details circle #784 on mailing card.

## Louvered Fluorescent Unit for Low Ceiling Rooms

The all-steel Smithcraft "Executive" is a shallow louvered fluorescent unit for use in low-ceilinged schools and other institutions. It is modern in design and its tapered sides are self-illuminated, reducing contrast. The egg-crate louvers provide a shielding of 30 degrees crosswise and 45 degrees lengthwise. The new "Executive" is available with open top for uplighting or with top reflectors for



100 per cent downlighting. It may be mounted individually or in continuous rows, surface or pendant. Smithcraft Lighting, Chelsea 50, Mass.

For more details circle #785 on mailing card.

## Saran Wrap in Large Dispenser

The Ready Roll has been designed to dispense Saran Wrap for easy handling in institutional applications. The handy corrugated cardboard dispenser box holds a 1000 foot roll of Saran Wrap in both 12 and 18 inch widths. Saran Wrap is ideal for wrapping foods to be frozen and for covering foods prepared in advance. The Dow Chemical Co., Plastics Sales Dept., Midland, Mich.

For more details circle #786 on mailing card.

## Unit Ventilator Is Gas-Fired

The new Herman Nelson Univent combines the advantages of unit ventilation with the low cost and rapid installa-

tion of a direct-fired gas unit. Particularly suited for installation in portable school buildings, additions, temporary schools and remodeled classrooms, the new Univent will operate wherever direct-fired gas is suitable. Smaller schools heated with residential furnaces without ventilation control can now have the advantages of unit ventilation with the new gas-fired unit. It can also provide controlled classroom ventilation for additions and rural schools.

Rated in accordance with the ASHAE Standard Code for testing and rating unit ventilators, the new Univent meets all comfort requirements, including rapid response to changing conditions caused by occupants, sun or lighting; automatic temperature controls; window downdraft protection; adequate ventilation; good air distribution, and variable outdoor air for cooling. Simple to install, the new Univent requires no boiler room, stacks or boiler-to-classroom piping. American Air Filter Co., Inc., 215 Central Ave., Louisville 8, Ky.

For more details circle #787 on mailing card.

## Classroom Chair No. 277 Occupies Minimum Floor Space

Designed for maximum comfort and utility, the new Virco classroom chair #277 occupies a minimum of floor space. The tubular metal framework supports a contoured plywood seat and back. The surface working area is 16 by 22 inches, covered in Vircolite mar and stain resistant plastic coating for minimum maintenance. Space is saved through use of an under-slung book compartment made of solid steel rods which is readily accessible. The chair is available in 13, 15 and 17 inch seat heights. The baked-on enamel frame is finished in Suntan, Aqua-green, blue or coral and



the wood parts are finished in natural or tan-birch face. Virco Mfg. Corp., P.O. Box 44846, Station H, Los Angeles, Calif.

For more details circle #788 on mailing card.

(Continued on page 84)



## What's New . . .

### Folding Wall Tables Store in Cabinets

Fully recessed or flush-mounted cabinets only 6½ inches deep store the new



"Wall Tables of Tomorrow" when not in use. The new table and bench units unfold from the cabinets with no holes in table tops or benches for operating mechanisms. Automatic hydraulic action simplifies folding and unfolding of the units. When unlatched, the table and bench unfolds itself quickly and gently. The units may be detached if desired.

The new model of the Fold-A-Way table and bench unit for quick conversion of gymnasium to cafeteria has tough, colorful plastic tops and benches in any of five solid decorator colors or two-tone combinations. It is sturdily constructed for long, efficient operation, with minimum maintenance to keep it clean. Haldeman-Homme Mfg. Co., 2580 University Ave., St. Paul 14, Minn.

For more details circle #789 on mailing card.

### Riding Mower Speeds Grounds Projects

The versatile new Mark XXVI Riding Power Mower can be used to speed a variety of outdoor projects. It can be used to grade and seed the lawn, mow the grass, sweep leaves and for snow clearance. The rugged, simplified transmission permits pulling loads up to 1000 pounds. Fully pneumatic rear tires furnish maximum traction on any surface. The special steering mechanism permits turning on a 25 inch inside radius. The power is equalized on both rear wheels.

For mowing, the blades produce a 26 inch cut and the operator can adjust the depth without dismounting. Safety fea-



tures include an anti-coasting blade brake, four wheel stability and a rotor disengaging arm. Porter-Cable Co., 102 Exchange St., Syracuse 8, N.Y.

For more details circle #790 on mailing card.

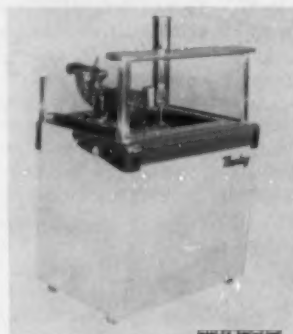
### Anti-Slip Wax for All Floor Surfaces

Westwax, a water emulsion wax for use on all floor surfaces, has a completely new formula. The anti-slip wax is formulated with a highly refined grade of pure, light-colored Carnauba wax, permitting its use on light colored or even white floors without fear of discoloration. The wax contains Mirite, a hard, clear, glossy plastic emulsion for extra durability, developed by the manufacturer, and Ludox, for increased anti-slip properties. The new Westwax provides a high initial gloss without buffing, is scuff-resistant and water resistant, yet is easily removed when desired. West Disinfecting Co., 42-16 West St., Long Island City 1, N.Y.

For more details circle #791 on mailing card.

### Sno-Cone Machine Is Self-Contained Unit

The new Manley Sno-Cone Machine is equipped to dispense one-ounce of syrup with an appropriate amount of ice in a



six-ounce cup. The self-contained unit with a large insulated ice-drawer which holds 100 pounds of block ice, provides a tasty refreshment with assured profit as it is possible to make 8½ cents on every 10 cent cone sold.

Ice feeds through the machine continuously or until the desired amount has accumulated. Snow is then stored in a large ice pan at the top of the machine. An electrically-operated cutter shaves fine or coarse ground ice at 2100 revolutions per minute. The Sno-Cone is equipped with holder, pick, funnel, cone spoon and ice shovel. Manley Inc., 1920 Wyandotte, Kansas City 8, Mo.

For more details circle #792 on mailing card.

### Black Plastic Mulch Simplifies Grounds Maintenance

Kordimulch is the name given to a new inexpensive black plastic garden mulch for landscape and ground maintenance. Extensive tests conducted at agricultural experiment stations in a variety of climates and soil types indicate that its use reduces maintenance costs. Plants grown using the mulch,

which is porous but holds moisture in the soil, are described as bigger, earlier and healthier. Less watering is necessary when the plastic mulch is used



and there are no weeds to pull.

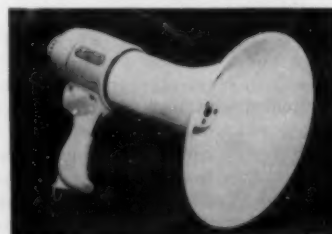
To use, Kordimulch is unrolled over the spaded garden area, slit with a razor blade or knife over the spot to be planted, and either seeds, bulbs or partially-grown plants are planted through the slits in the soil below. The film can be unrolled over an existing garden, holes slit and growing plants pulled through the openings. Dead plants can be removed through the same slits in the fall. Loose soil placed around the edges anchors the film and excess material may be tucked under or cut off to conform to the edges of the garden plot. The film is lightweight and easily handled and cut, yet is tough and durable. It is packaged in 40-inch rolls 104 feet long for smaller gardens and is available in larger sizes for large institutional gardens and landscape areas. Kordite Company, Macedon, N.Y.

For more details circle #793 on mailing card.

### Electronic Megaphone Is Lightweight

The new Pye Transhailer Megaphone is 15½ inches long and weighs only five pounds. Powered by standard flashlight batteries, the Transhailer is completely self-contained with speaker, amplifier, batteries and microphone in one weather-resistant unit, with a pistol grip handle and trigger control.

The megaphone has a maximum power output of 3½ watts for an operating range of more than one-fourth mile under normal noise conditions. Battery life ex-



pectancy is six months under normal operating conditions. Pye Corporation of America, Telecommunications Div., 270 Park Ave., New York 17.

For more details circle #794 on mailing card.

(Continued on page 86)





## **FUND ACCOUNTING IS SIMPLIFIED ... with IBM Punched Cards**

Complex endowments . . . earmarked funds and scores of restrictions that characterize FUND ACCOUNTING . . . these come to order *automatically* with IBM punched cards.

With IBM methods, in fact, you get CONTROL YOU NEVER THOUGHT POSSIBLE—not in fund accounting alone, but in *every* accounting and record-keeping operation—from payables to payroll, from materials control to general ledger accounting.

Swiftly moving from job to job, flexible IBM equipment helps you turn out more work . . . develop less costly proce-

dures . . . mechanize clerical routines . . . and get far more effective reporting of the facts vital to informed decisions.

More details? Just call your local IBM representative or write: COLLEGE AND UNIVERSITY DEPARTMENT A57, International Business Machines Corporation, 590 Madison Avenue, New York 22, N. Y.

**IBM**

**DATA  
PROCESSING**

DATA PROCESSING  
ELECTRIC TYPEWRITERS  
MILITARY PRODUCTS  
TIME EQUIPMENT



## What's New . . .

### Redesigned Sprinkler Is Smaller and Faster

The Adamson Moving Base Sprinkler is now available in the new 17-31 model



with a completely redesigned small base which is compact and lightweight for easier handling. The traveling head in the new model is geared for greater speed when needed. Models now available in the Adamson Traveling Sprinklers have a travel speed range of from 17 to 80 feet per hour.

The water-powered, automatic sprinkler unit is designed for efficient irrigation of athletic fields and other turfed areas. Efficient operation with minimum outlets is assured with the sprinklers which give even water distribution. Working on average pressure, the traveling sprinklers cover a large area, moving automatically, and giving an even rainfall type of coverage without puddles or dry spots. The complete system requires minimum hose connections and hose length as well as minimum attention. Adamson Sprinkler Co., 2228 Barry Ave., Los Angeles 64, Calif.

For more details circle #795 on mailing card.

### Baseball Backstop Design Protects Observers

The "Hollywood Bowl" design of the new Jamison Baseball Backstop provides for the recessing of home plate inside the unit, protecting observers from high flying balls. Parts and fittings are accurately cut to size for quick erection and assembly. The unit is ground anchored 14 inches in concrete and is carefully engineered for sturdiness and safety. It is 30 feet wide and 16 feet high at the front and 10 feet 6 inches wide and 7



feet 6 inches high at the back to allow ample freedom of player action. Jamison Mfg. Co., 8800 S. Mettler St., Los Angeles 3, Calif.

For more details circle #796 on mailing card.

### Electric Desk for Commercial Classrooms

An electric desk to handle both manual and electric typewriters has been designed by Desks of America. Each desk provides a multiple number of plugs under the base of the desk which eliminate wires running into floor sockets and the danger of tripping over such wires. The new desk also eliminates the need for wiring older classroom floors. With the multiple plugs, transcribing machines and other units can also be accommodated. Desks of America, Inc., Bridgeport 6, Conn.

For more details circle #797 on mailing card.

### Electric Plaster Groover Picks Up Dust

The Wodack Electric Plaster Groover is designed for use in electrical work and in installing temperature control and other systems in existing buildings or new construction. The portable tool employs a six-inch abrasive cutting wheel which makes a single cut up to 1 1/4 inches in depth through plaster, lath, brick or concrete.

The feature of the new tool is a spe-



cially designed connection for attaching a commercial vacuum cleaner hose to draw away all plaster dust. This development not only safeguards the health of the operator but keeps the air and floor free of plaster dust. Wodack Electric Tool Corp., 4627 W. Huron, Chicago 44.

For more details circle #798 on mailing card.

### Electric Dispenser for Photocopy Paper

Designed for use in conjunction with the Apeco Dial-A-Matic Auto-Stat photocopying machine, the new Apeco Eject-O-Matic paper dispenser automatically ejects one sheet of photocopy paper at a time with just a touch of the electric ejector bar. It protects photocopy paper from light exposure and features an easy loading principle with simple adjustments to hold 100 sheets of any standard photocopy paper sizes. New speed and quiet and efficient operation are features of the new electric dispenser which is lightweight, portable and designed to give years of dependable service. American Photocopy Equipment Co., 1920 W. Peterson Ave., Chicago 26.

For more details circle #799 on mailing card.

### Folding Cafeteria Unit Opens in Three Seconds

The new Howmatic "12" folding table and bench unit is entirely auto-



matic in action and can be folded or unfolded in three seconds. Opened, it provides a table and bench unit twelve feet long. Folded, it requires minimum storage space and can be maneuvered into even small quarters because of the four hard-rubber swivel casters on the center frame. Four fixed casters on the bench legs secure the unit when opened.

The all-steel frame has a Formica table top, providing ease of cleaning and resistance to damage, with hard wood benches. A lock grips the table when opened to keep it in position. The release bar is placed at adult height. When folded, bench tops never touch the table or eating surface and the completely exposed surfaces permit easy cleaning. Howe Folding Furniture, Inc., One Park Ave., New York 16.

For more details circle #800 on mailing card.

### Classroom Desks of Welded Steel Construction

Two new desks in the line of BéLA classroom furniture are illustrated. The D1 desk with open front has a 20-gauge steel book box with bottom and sides securely bronze-welded into an integral unit. The DS1 study desk has a small book box welded at the side under the top. Both desks have resin bonded hardwood plywood tops. The D1 is also available with a solid hard maple top and the DS1 is offered as DS2 with solid wood top and DS3 with plastic top.

Both desk frames are constructed of one inch 18-gauge steel tubing with a continuous brace securely bronze-welded to all four legs. Case hardened rubber



cushion glides of 1-1/16 inch diameter prevent damage to floors and are designed to resist removal without proper tools. J. & J. Tool & Machine Co., 9505 S. Prairie Ave., Chicago 28.

For more details circle #801 on mailing card.

(Continued on page 88)

COLLEGE and UNIVERSITY BUSINESS



big college enrollments call for small

photographs by


# FILM-A-RECORD

TRADEMARK

Increased enrollments burden you with increased student and administrative records. To house these active records more and more usable office space is needed, while inactive records take up valuable storage space. Besides the space problem, much time is spent filing, finding, reviewing and making copies.

Why not solve these problems swiftly and efficiently by microfilming with FILM-A-RECORD? More than 10,000 correspondence size documents — the contents of several file drawers — can be recorded on a single roll of film. MICRODEX Indexing permits instant reference to records on film. Or, a student's complete history can be unitized and mounted in acetate jackets. Facsimile copies are made easily direct from the microfilmed image.

Read how successfully FILM-A-RECORD Microfilm works for two of the nation's leading educational institutions. Send the coupon for the complete detailed story.



**FILM-A-RECORD**  
Model 11 Camera

***Remington Rand***  
DIVISION OF SPERRY RAND CORPORATION  
Room 1532, 315 Fourth Avenue, New York 10

*I want free Case History CH1033.*

NAME & TITLE \_\_\_\_\_

INSTITUTION \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_



## What's New . . .

### Desk and Seat Unit Has Impermeable Top

The new Irwin No. 850 Desk-Chair classroom seating unit features contem-



porary design and materials. The one-piece lifting lid desk top, faced with G-E Textolite for damage resistance, has maximum working area. The book box provides a large storage area with easy removal of paper and books. The friction hinge, adjustable for tension, prevents the top from slamming.

The seat and back rest are designed for good posture and comfortable seating. The tubular connecting members

permit only left side access to encourage orderly aisle traffic. Easy ingress and egress are assured by the wide spread leg design which allow maximum leg room and facilitates cleaning and maintenance of floors. The unit is available in 25, 27½ and 30 inch heights. **Irwin Seating Company, Grand Rapids, Mich.**  
For more details circle #802 on mailing card.

### Wash Sink Faucet Has Adjustable Timing

The new Slow Self-Closing Wash Sink Faucet is push-button operated with an adjustable timing, controlled volume water flow feature. The T & S Model B-800 is a heavy duty unit especially suitable for school wash sinks. The convenient, automatic hand-washing spray operates at a pre-set water temperature with regulated flow for water conservation. An adjusting screw on the removable push-button assembly permits regulating the flow from instantaneous shut-off to various degrees of delayed, self-closing action.

The interior is renewable and inserts into the housing as one complete assembly. It has a polished chromium plated finish and is ruggedly constructed to meet high standards of school use. **T & S Brass & Bronze Works, Inc., 32 Urban Ave., Westbury, L.I., N.Y.**  
For more details circle #803 on mailing card.

(Continued on page 90)

### Locker Rack Takes Minimum Space

Where clothes storage floor space is limited, the Lyon Locker Rack provides a convenient and practical solution. Accommodating 10 persons, the rack is 50 inches wide, 18 inches deep and 76 inches high with all compartments at a convenient level. Coats and jackets can be locked to the rack by a hanger and chain arrangement and each door is equipped with a built-in lock with two keys. The



rack is portable and can be easily moved to any place of need. It is finished in gray baked-on enamel. **Lyon Metal Products, Inc., Aurora, Ill.**  
For more details circle #804 on mailing card.

## Why the great growth of **MOSINEE TURN-TOWL SERVICE** in college washrooms?

1. The towel itself will outperform any other towel for its ability to absorb water quickly, thoroughly.
2. Controlled Turn-Towl cabinet dispensing cuts towel consumption from 40% to 50%.
3. Cabinet holds 417 towels. This, plus fewer used towels to handle, keeps maintenance time and costs at a minimum.
4. Low cost of Turn-Towl service benefits citizens who pay college costs.



Find out how Turn-Towls can save you money . . . improve your washroom sanitation. Get complete details by mailing the handy coupon below.

CLIP THIS COUPON AND MAIL IT TODAY

### BAY WEST PAPER COMPANY

1110 West Mason Street, Green Bay, Wisconsin

Please send me the free Turn-Towl Kit with complete information on Turn-Towl Service.

Name .....  
Firm .....  
Address .....  
City ..... Zone ..... State .....





# Libbey Heat-Treated DATED Glassware

"is a real money-saver in our restaurants"

*Hayes-Bickford Lunch System Inc.*

32 GARRISON STREET

*Boston Massachusetts*

TELEPHONE COMMONWEALTH 8-5122

Libbey Glass  
Division of Owens-Illinois  
Toledo 1, Ohio

Gentlemen:

In our 17 Hayes-Bickford restaurants we have used Libbey Heat-Treated DATED Glassware for many years, with complete satisfaction.

Yet we were amazed when we made our own survey to find the actual servings each tumbler produced. Using the code symbol on every glass, we were able to prove that tumblers averaged 3,700 servings--for the fantastically low cost of 1 4/5 cents per 1,000 servings.

Your Heat-Treated glassware stands up perfectly under rugged service conditions, and is a real money-saver in our restaurants.

Sincerely,

*Charles F. Heywood*

Charles F. Heywood  
Purchasing Agent



Mr. Charles F. Heywood  
Purchasing Agent  
Hayes-Bickford Lunch System, Inc.  
Boston, Massachusetts



Hayes-Bickford restaurants are familiar throughout Boston for fine meals moderately priced.

Mr. Charles F. Heywood, Purchasing Agent for Hayes-Bickford, operating 17 restaurants in Boston, Mass., has proved the operating economy provided by Libbey Heat-Treated DATED Glassware.

It's a simple matter to make your own survey. For eight years a code symbol indelibly marked on the bottom of every Heat-Treated glass has made it possible to trace the use of each glass. A check of this glassware will quickly show its amazing dura-

bility and resulting economy in restaurant operation.


Economical operation is further assured by the famous Libbey guarantee: "A new glass if the rim of a Libbey 'Safedge' glass ever chips."

Your Libbey Supply Dealer has full details on how Heat-Treated DATED Glassware can minimize your glassware costs.

See him or write to Libbey Glass, Division of Owens-Illinois, Toledo 1, Ohio.



This symbol appears on the bottom of every Heat-Treated DATED glass. Left number indicates year of manufacture, right shows quarter. Add up the number of servings to prove the unbelievable economy of this glassware.

LIBBEY HEAT-TREATED GLASSWARE  
AN  PRODUCT

OWENS-ILLINOIS  
GENERAL OFFICES • TOLEDO 1, OHIO



## What's New . . .

### Convection Heater Is Gas-Fired

A new gas-fired overhead forced convection heater has been designed to heat



large areas such as auditoriums, foyers, lunchrooms and gymnasiums. It operates with a 115,000 BTU input per hour in conjunction with the Norman heating and ventilating system installed in individual classrooms.

The unit features a sealed combustion system with exclusive automatic electric ignition which operates independently of room air and eliminates pilot outage. There is no open flame exposed to the room. Combustion air is drawn from the outside through an inlet pipe and exhaust gases are vented out through a separate parallel pipe. The circular design permits gentle automatic warm air distribution in a full 360 degree radius. **Norman Products Co., 1150 Chesapeake Ave., Columbus 12, Ohio.**

For more details circle #805 on mailing card.

### Table Tennis Bats Sponge Rubber Faced

Sponge rubber faced bats and sets have been added to the 1957 line of Harvard table tennis equipment. The sponge rubber facing adds to the twists and spins which a player can put on the ball both in serving and returning. The sponge rubber bats are available in both a smooth or corrugated facing. **Harvard Table Tennis Co., 60 State St., Boston 9, Mass.**

For more details circle #806 on mailing card.

### Floor Machine For Small Areas

Designed for areas too small for large, heavy machines, the Lawlor-ette floor machine is an economical all-purpose machine which scrubs, flood rinses, picks up and polishes. Only 17 inches wide, it can be turned easily in small areas. All controls are centralized for one man operation. **S. C. Lawlor Co., 124 N. Aberdeen St., Chicago 7.**

For more details circle #807 on mailing card.

### Riding Mower Turns "On a Dime"

The Jari Square-Turn PowerRide Mower features an exclusive transmission that permits it to be turned in minimum space. Fiber glass is used for the armchair type seat on the new

riding mower which has a streamlined body. Designed for institutional use, the new machine cuts a 30-inch path with the front reel only, or a 66-inch path with two wing units added. A choice of either 3.3 or 6.8 h.p. motor permits use of the mower for any grass-cutting need.

The machine can actually turn square corners and the versatile transmission functions as a clutch, differential, brake, forward and reverse drive and power steering all in one compact mechanism. The molded, durable seat of easily-cleaned plastic provides back support and side protection. Four rubber shock-mounts give the driver added comfort. Precise control in turning, speed and



direction is provided by one handle at each side of the seat. **Jari Products, Inc., 2990 Pillsbury Ave. S., Minneapolis 8, Minn.**

For more details circle #808 on mailing card.

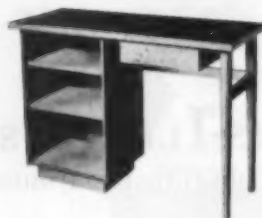
(Continued on page 92)



**dormitory room—172 group**  
bunk beds 172-66, chest 172-21, mirror bulletin board 172-23, double student desk 172-45, desk chairs 5622, lounge chair 1006.

**single student desk 172-45**  
w. 42", d. 18", h. 30".

Other desk sizes and chair styles available.



## dormitory group

by **THONET®**

The simple, attractive design of this 172 group provides maximum livability in a minimum of space.

\*For more than 100 years specialists in the manufacture of all types of institutional furniture.

Write us about your needs, and we will send you additional information.

**THONET INDUSTRIES, INC., Dept. H**  
ONE PARK AVENUE, NEW YORK 10, N. Y.



**SHOWROOMS:** NEW YORK, CHICAGO, DALLAS, LOS ANGELES, MIAMI, STATESVILLE, N. C.



## Let a Devoe Color Consultant help you apply modern, money-saving paint techniques

The intelligent use of color has become an important function of both the architect and maintenance engineer. It is their responsibility to determine functional color harmony for schools, hospitals, factories and office buildings—colors designed to

1. reduce eyestrain
2. speed up convalescence

3. increase employee morale
4. raise productivity
5. reduce annual paint costs

To help carry this concept forward DEVOE has made available its Color Consultant Service. You are invited to submit plans of important projects under consideration. We will prepare color recommendations and a complete analysis

of paints required for the job...all without obligation on your part.

For this service, please feel free to write or call the nearest DEVOE sales office. At the same time, we suggest that you send the coupon for "A DEVOE Paint for Every Surface." You'll find it an excellent paint reference guide for practically every surface finish job.



**DEVOE** 203 years of paint leadership!

**DEVOE & RAYNOLDS COMPANY, INC.**

Atlanta • Boston • Chicago • Cincinnati • Dallas  
Denver • Los Angeles • Louisville • New York • Philadelphia

**THE AMERICAN INSTITUTE OF ARCHITECTS**  
CENTENNIAL CELEBRATION  
1857-1957

Best wishes to A. I. A., Inc.

**Mail Coupon Today!**

Devoe & Reynolds Company, Inc., Dept. CU-5  
Louisville, Kentucky  
Gentlemen: Send me your FREE booklet "A Devoe Paint for Every Surface."

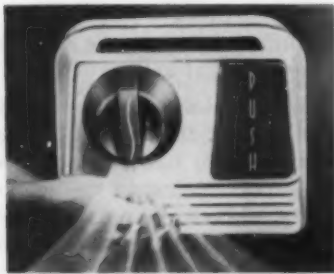
Name \_\_\_\_\_ Title \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



## What's New . . .

### Electric Hand Dryer With Large Push Bar

The Sani-Dri line of electric hand dryers has been redesigned for improved



appearance and operation. The plastic push bar is large enough that operation may be started with a touch of an elbow against its surface. Hands remain sterile because they do not touch the starter.

The motor is balanced on resilient mountings for quiet and smooth operation. The blower and heating unit delivers more cubic feet of warm dry air per minute with a reduction in current consumption. An Airflex timer controls the automatic drying cycle which can be adjusted for the length of drying. Five different models are available in the new exterior styled by E. Burton Benjamin and Associates. Chicago Hardware Foundry Co., North Chicago, Ill.

For more details circle #809 on mailing card.

### Ribbon Glass Windows Have Ceramic Colors

Vitrolux is the name given to a new spandrel glass for modern wall structures. It has ceramic colors fused onto the inner side of the plates in a selection of sixteen standard colors and black and white. The quarter-inch plate glass is heat-strengthened for added strength to resist shock and is available in maximum size of 60 by 84 inches. The new polished colored plate glass surfacing material will hide building service facilities and structural framework while providing color contrasts in entire walls of glass.

A new Blue Ridge spandrel glass product recently introduced by Libbey-Owens-Ford is known as Huetex. This patterned texture glass provides a colored surface to contrast with the polished ribbon window of plate glass now available in colors in Vitrolux. Libbey-Owens-Ford Glass Co., 608 Madison Ave., Toledo 3, Ohio.

For more details circle #810 on mailing card.

### Sanitary Napkins in Compact Form

A full-sized external sanitary napkin is now available compressed into a small compact blue tube only slightly larger than a lipstick case. The superior quality napkin, trade-named "Delicate," is made

(Continued on page 94)

of pure long-staple cotton and conforms to the body for comfort in use. The highly-absorbent napkin fluffs out to original softness and size when removed from the easily-opened tube. The cotton in "Delicate" is impregnated with a patented odor preventive, known as Becba, which is colorless, non-toxic, odorless and stainless. The napkin is packaged with an individual disposable sanitary cotton belt.

The "Delicate" napkin is dispensed through a special machine. The compact size of the napkin permits loading a large number into the dispenser. The machine is ruggedly constructed of



heavy gauge steel and is easy to install. The trouble-free mechanism gives uninterrupted service. American Hygienic Corp., 209 S. La Salle St., Chicago 4.

For more details circle #811 on mailing card.

## CUT LABOR COSTS

with  
**BUCKNER**  
*Quick-Coupling*  
**VALVES**

Labor costs reduced to a minimum. Easy to handle. Self-closing, grit-proof, Quick-Coupling valves provide fast turf watering with hose or sprinkler. Out of sight for beauty and mower protection.



**TURF KING  
SPRINKLERS**

Positive low cost penetration. Turf King sprinklers provide maximum efficient coverage over large turf areas. Dependable rotation. Bearings are sand-proof.

**BUCKNER**  
MANUFACTURING CO., INC.

1615 Blackstone Ave. P. O. Box 232 Fresno 8, Calif.

**Restores resiliency  
conditions wool fibers  
that have been matted  
by traffic & scrubbing.**

Tinolan process was developed in a leading museum to do a superior job of restoring rare tapestries and wool fabrics. There is nothing else equal for carpets and rugs.

### Easier—Costs less

Rugs and carpets are treated without removal; are back in service the same day. It's less work and costs less in money than harmful scrubbing with the usual detergents. Tinolan mothproofs too, while it restores.

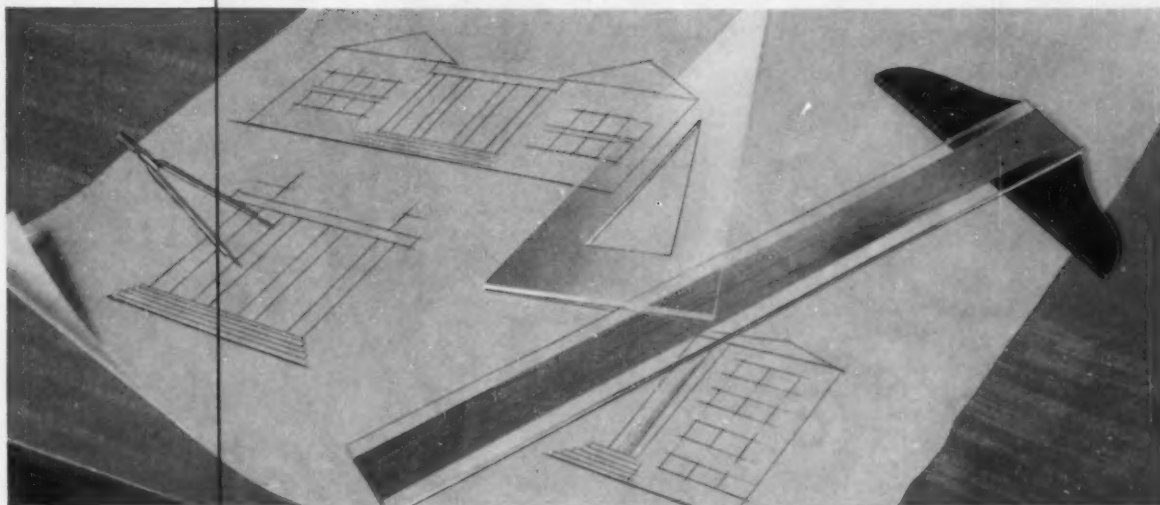
Write for trial offer data.

# TINOLAN

The Tinolan Company of America, Inc., Wallingford Rd., Media, Pa.

COLLEGE and UNIVERSITY BUSINESS





*a new dimension*  
**FOR COLLEGE AND  
UNIVERSITY DEVELOPMENT**

What increases in funds and facilities will your college or university need in the years ahead . . . and how will you obtain them?

The American City Bureau's *Dimensional Development Service* can help you solve these perplexing problems—set your objectives and fulfill them.

This is more than Development Programing or “campaigning”. It is fund-raising with a purpose. It is a new approach, developed and proved over the years to offer Education advanced and broader concepts of fund-raising.

If you seriously want to consider your needs for current operational funds and expansion capital and constructively want to solve them—we have something to offer you.

May we discuss this unique service with you? It can equip your institution to meet the challenge of the future.



*American City Bureau*  
(ESTABLISHED 1913)

Prudential Plaza—Chicago 1, Illinois  
470 Fourth Avenue, New York 16, N. Y.

*Charter Member American Association of Fund-Raising Counsel*



## What's New . . .

### Floor Machine for Large Areas

The Huntington Model 20-D Floor Machine with brush diameter of 20



inches has been engineered for maintenance of large floor areas. The machine operates on a one h.p. motor and polishes, scrubs, sands, seals, steel wools and shampoos floors. The unit is equipped with 50 feet of cable, one scrub brush, one polishing brush and incorporates the Huntington Micro Switch for operation by either hand. **Huntington Laboratories, Huntington, Ind.**

For more details circle #812 on mailing card.

### Micromatic Veining in Reinforced Vinyl Flooring

New designs and new sizes are now

offered in Vina-Lux flooring. Vina-Lux reinforced vinyl is now available in 1/16, 3/32 and 1/4 inch in Micromatic Veining. Also in the same thicknesses, the new V-342 Capestrano reinforced vinyl-asbestos has a beige background with light brown and white Micromatic Veining. There are now 21 colors in the Vina-Lux line.

Two new patterns have been added to the line of Azphlex vinylized tile, both colors in 3/32 and 1/4 inch thicknesses. Azrock asphalt tile in C-59 Walnut is another new addition to the line. **Azrock Products Division, Uvalde Rock Asphalt Co., Box 531, San Antonio, Texas.**

For more details circle #813 on mailing card.

### Multi-Link Matting in Many Color Combinations

The new Goodrich Multi-Link Matting is constructed of individual Koroseal links which are available in many colors. The matting is custom-made allowing the institution to select a color combination to coincide with its architecture or school colors. The links, available in gray, brown, blue, yellow, black, green, white, red and orange are strung on parallel non-rusting spring steel rods. Mats are finished on all four sides with Koroseal nosing which may be either square or tapered. Koroseal links are

(Continued on page 96)

said to resist aging, abrasion, acids, caustics and oil. **B. F. Goodrich Industrial Products Co., Akron, Ohio.**

For more details circle #814 on mailing card.

### Chalkboard Easel Is Teacher Aid

The new Optivox Easel has been designed primarily as a teacher aid in presenting special material before the class. Legs fold up making the unit readily portable and available for desk top use. It can also be used as a paper chart stand.



A birch pointer, eraser, chalk and crayons are standard equipment with the Optivox. **Advance Furnace Co., 2300 E. Douglas Ave., Wichita 7, Kan.**

For more details circle #815 on mailing card.

## 30% MORE SEATING CAPACITY

with American Seating's NEW Folding Chair!

Greatest advance in folding chairs in 25 years! Independent-fold seat saves nine inches back-to-back spacing over conventional folding chairs!



Upholstered spring-arch seat for luxurious comfort. Wide choice of upholstery colors and materials, and frame colors. Safe, silent, long service. Carriage handle for coupled chairs.

The most complete line of folding chairs, with the greatest use-value in every price bracket. Let us demonstrate — soon.

Other models also available in these seat styles — birch plywood, shaped steel, imitation leather upholstery. Accessories. Also folding tables, storage trucks.

Mail coupon below today

**AMERICAN SEATING**



American Seating Co., Dept. 12-F  
Grand Rapids 2, Michigan

Please send full information on complete American Seating Folding Chair and Table lines.

NAME \_\_\_\_\_

STREET \_\_\_\_\_

CITY & ZONE \_\_\_\_\_

STATE \_\_\_\_\_

## 100

DIFFERENT SIZES, STYLES  
OF BULLETIN BOARDS AND  
CHANGEABLE LETTER BOARDS

### BY DAV-SON

A Dav-Son board for every job. Changeable letter directory and announcement boards, black boards, menu boards, others. Sturdily constructed, every Dav-Son board is built to last, with quality built-in for years of service.

**Dav-Son Changeable Letter Directories for Lobby, Office, Outdoor Use.**

- Wide Variety of Styles and Sizes
- Glass Enclosed Front
- Hardwood or Metal Frames
- Highest Quality Felt
- Absolutely Warpproof
- Also Available with 5" g" Standards

**Dav-Son Genuine Self-Sealing Cork Bulletin Boards**

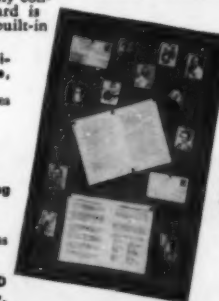
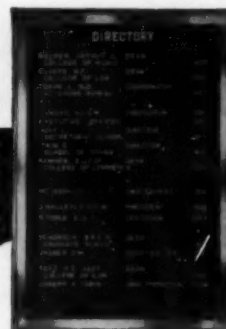
- Indoor and Outdoor Styles
- Hardwood or Metal Frames
- With or Without Locking Glass Doors
- World's Largest Selection

**DEALER INQUIRIES INVITED**  
If Your Dealer Can't Supply,  
Order Direct

J. F. HESTER

**A. C. DAVENPORT & SON, INC.**  
311 N. DESPLAINES STREET, CHICAGO 6, ILLINOIS, DEPT. CB

**INSIST ON DAV-SON—YOUR BEST BUY!**



**DAV-SON**

**Dav-Son Changeable Name Plate**  
Black card with white letters under beveled plexiglass shield. Triangular wood base in choice of Walnut, Oak, Mahogany, Blonde or Steel Grey finish. 10 1/2" x 3 1/4"



"Little things affect peoples  
attitude toward you"



## FORT HOWARD PAPER TOWELS

dry more hands dryer

...because of more drying power

All kinds of hands . . . in factories, offices, institutions, schools. Big, dripping hands that really test a towel. Small, delicate hands that need a gentle touch. All hands are dried better . . . more economically . . . with the greater drying power of Fort Howard Towels.

Fort Howard Towels soak up a lot of water—one towel usually does the job—because Controlled Wet Strength keeps wet towels strong, firm, soft.

Stabilized Absorbency helps keep this drying power as they age. And because they're Acid Free, they're gentle on hands.

That's why you'll be glad you have one of Fort Howard's 27 grades and folds in your washroom. Remember—Fort Howard Towels can fill any cabinet at any price. For more information and samples—call your Fort Howard distributor salesman or write Fort Howard Paper Company, Green Bay, Wis.



**Fort Howard Paper Company**

Green Bay, Wisconsin

"America's most complete line of paper towels, tissues and napkins"

©Fort Howard Paper Company



## What's New . . .

### Visible Control Panels for Record Files

The new Visual Control Panels for record files offer flexibility which per-



mits their adaptation to any individual record requirements. The lightweight panels contain from 25 to 100 clear plastic tubes in 17, 30 and 40-inch widths. The tubes are individually removable and easily shifted from one position to another. Various sizes and colors of signals are available, offering almost limitless signalling and charting possibilities.

Signals snap on or off at any point, slide smoothly back and forth, yet hold position until positively moved. The insertable index feature permits signalling by position, by color and by legend of index. The system can be applied to practically any kind of control records. Acme Visible Records, Inc., Crozet, Va.

For more details circle #816 on mailing card.

### Anchor Hinge for Exterior Doors

Designed for hanging exterior doors of wood or metal in public buildings, the new Anchor Hinge is made of wrought steel in five by four and one-half inch size. It is adaptable to all doors one and three-quarters to two and one-quarter inches thick where a door holder or door closer, in conjunction with other conditions, causes severe strain on hinges, particularly the top one. Of extra heavy gauge, the Anchor Hinge is equipped with four bearings and is available highly polished and triple plated to resist rust, or bonderized and prime coated for painted finishes.

Wood or machine screws are supplied with the new hinge and template punch of screw holes permits its use on metal as well as on wood doors and jambs. Designed to provide strength to resist potential hinge failures, plus damage to door or jamb, the new Anchor Hinge is offered in two models. Both are available in right or left-hand types. McKinney Mfg. Co., 1715 Liverpool St., Pittsburgh 33, Pa.

For more details circle #817 on mailing card.

### Tiller Rake Reconditions Tracks

One man can recondition cinder running tracks in a few hours with the

(Continued on page 78)

new Roseman Tiller Rake. Hard packed cinder tracks are scarified and aerified to a controlled depth with the new tool, which at the same time levels and rakes the track into perfect condition.

The patented Tiller Rake, which is easily attached to the three-point hydraulic lift of most tractors, is also a one-tool machine for landscape scarifying, grading, leveling and finish raking. Through a pitch-control wheel the Roseman Tiller Rake can be alternately positioned to scarify, till, level, spread, grade and finish-rake rough and compacted ground ready for seed-



ing. All operations are handled by one man with minimum effort with the new tool. Roseman Tractor Equipment Co., 2617 Crawford Ave., Evanston, Ill.

For more details circle #818 on mailing card.

## FOLDING SOUND LECTERN

### Complete Public Address System

—built into beautiful  
RIFT WHITE OAK LECTURN  
Utterly NEW in concept  
It goes wherever you go!

Place on  
table,  
—unfold  
desk,  
microphone  
and reading  
lamp.

PLUG IN  
AC

Your audience  
(50—500)  
"YOURS TO  
COMMAND"

DAVISOUND

Let us tell more  
WRITE

106 MAIN STREET

MADISON, N. J.



Huntin' for  
quality  
public  
seating?  
**Hampden**

has the  
answer

For those who prefer a comfortable, handsomely grained plywood seat, Hampden's No. 73 Chair is the answer. All metal parts made of rustproofed tubular steel, non-chip enamel finish, replaceable rubber tipped feet.

Write Department 13E  
for illustrated brochure  
of complete line

Hampden

SPECIALTY PRODUCTS, INC.  
EASTHAMPTON - MASSACHUSETTS





There is a man who knows



## He'll help you solve your maintenance problems

**AND PROBABLY SAVE YOU MONEY, TOO!**

Refinishing a floor, especially a gym floor, can be a problem. The finishing material selected must stand up under abuse. It must keep floors light and attractive. It must be easy enough to use so that labor costs are low. And, it must be easy to maintain.

Solving these problems requires the time and talents of a Specialist. When you have a wood floor that needs refinishing, consult your nearby Huntingdon Representative. He knows how to do the job in the best way with

the least expense for labor and materials. He knows how to protect all of your costly floors and floor coverings and the proper methods for maintaining your building from floor to ceiling. Your Huntingdon man will gladly help supervise the actual operations. And he'll help train maintenance personnel if that's needed. It's a service that's yours without cost when you use Huntingdon products. Write for the name of the Huntingdon Representative nearest you.

**HUNTINGDON**  **LABORATORIES**  
INCORPORATED

Huntington, Indiana • • Philadelphia 35, Pennsylvania • • Toronto 2, Ontario



## What's New . . .

### Plate Glass Door Is Ruggedly Constructed

The new Pittsburgh plate glass door, known as the West Tension Door, is en-



gineered with a piece of one-half inch thick glass held under compression by a thin metal frame. This design offers structural strength which is durable and impact resistant and will not sag, rack or get out of alignment.

The new development offers many design possibilities as locks and accessories are interchangeable and many combinations of pull or push plate type door handles can be used. The West Tension

Door is particularly suitable for operation with any automatic opening device and may be adapted to overhead closes, or can be furnished with offset built-in hinges. Pittsburgh Plate Glass Co., 632 Ft. Duquesne Blvd., Pittsburgh 22, Pa.  
For more details circle #819 on mailing card.

### Dishwashing Compound Prevents Stains

Divoklor is a new chlorinated dishwashing compound which prevents staining of plastic and china dishware as it cleans. It is also designed to penetrate scratched surfaces and to remove deeply embedded stains. The Diversey Corp., 1820 W. Roscoe St., Chicago 13.  
For more details circle #820 on mailing card.

### Swimming Pool Filter in Compact Size

The new Swimquip Centri-Mite BF Series Filter ranges in size from a 20-inch diameter tank with 34 square feet of swimming pool filtration area to a 36 inch diameter tank with 115 square foot filter area. The series features a two-phase backwash system and employs a dial selector valve to control backwash and filter cycle. Diatomaceous earth is introduced through a slurry feeder. Swimquip, Inc., 3301 Gilman Rd., El Monte, Calif.  
For more details circle #821 on mailing card.

### Folding Lectern Is Portable

Designed to fill the need for a lectern in widely separated places, Detroit Lectern has introduced the new "Executive" Portable Lectern. The unit unfolds for instant use and folds for convenient storage or carrying from place to place. It is lightweight and sturdily constructed. The



reading surface is comfortably inclined and available accessories include lamp and a durable, attractive carrying case. Detroit Lectern Co., Inc., P.O. Box 3735, Detroit 15, Mich.  
For more details circle #822 on mailing card.

(Continued on page 102)

Institutions — Schools — Hospitals —  
Industrial Plants — Hotels — Caterers —  
Camps — Air Lines — Government — Civil  
Defense — Commercial Feeding Operations.

THE "AERVOID" CENTRAL KITCHEN  
SYSTEM HAS PROVED ITS WORTH  
IN ALL FIELDS OF MASS-FEEDING



AerVOIDs provide . . .  
Sanitary Vacuum Insulation -  
A positive Health Safeguard!

To-day's "Modern" trend toward centralization of food preparation is a milestone toward Economy, Better Quality and Higher Sanitary Standards.

Into this new picture nothing fits like AerVOID's Portable, Stainless-Steel, High-Vacuum Insulated, food, soup and liquid Carrier-Dispensers. AerVOIDs alone provide the proven quality and durability to survive under rough usage, spreading their cost over a long period of uninterrupted service. All AerVOID Equipment, so indicated in our specifications is "In Compliance" with the sanitary construction requirements of the U. S. Public Health Service Ordinances and Codes.

Write for FREE Literature Kit CUB-01  
Our Consulting Service is also FREE

VACUUM CAN COMPANY

19 South Hoyne Avenue, Chicago 12, Illinois

**AERVOID** Vacuum Insulated  
Hot or Cold Food, Soup, Milk,  
Coffee and Beverage Carrier-Dispensers

Those who  
make a living  
feeding or  
housing  
know the value  
of interior  
design . . .  
by mandel

Mandel Brothers Contract Division  
has long been management's source  
for the best in interior design,  
as well as functional, up-to-date  
furnishings. Mandel Men have helped  
many realize the most from building  
or remodeling budgets.  
When yours is a problem of making  
your premises more inviting,  
call a mandel man.

Experienced in Designing and Furnishing  
Complete Installations

mandel 1 North State Street • Chicago 2, Illinois

contract division

brothers

■ Albert B. Glass / Executive Manager  
■ Robert E. Lashner A.S.A. / Director of Design  
■ Fred R. Vandehey School / Sales Manager





Northeastern University's New Physical Education Center, Boston, Massachusetts; construction includes sound conditioning installation of Acousti-Celotex Standard Perforated Mineral Fiber Tile. Acousti-Celotex Contractor: Pitcher & Company, Inc.

## QUIET Wins Over Noise for University

Cheering crowds and spirited game activity make the athletic building one of the noisiest on the campus . . . and a prime prospect for noise control. Many hundreds of colleges and universities are finding the effective answer to this noise problem in Acousti-Celotex Sound Conditioning. They also find that a sound-absorbing

ceiling of Acousti-Celotex Tile provides a quiet atmosphere for classrooms, corridors, lecture halls, study rooms, auditoriums, cafeterias. The improved acoustics help facilitate the processes of both learning and teaching. **Mail Coupon Today** for a *free analysis* of the noise problem in your school, plus free booklet.



**ACOUSTI-CELOTEX**  
REGISTERED U. S. PAT. OFF.

*Sound Conditioning*

Products to Meet Every Sound Conditioning Problem . . . Every Building Code—The Celotex Corporation, 120 S. LaSalle St., Chicago 3, Illinois • In Canada: Dominion Sound Equipments, Ltd., Montreal, Quebec

### MAIL NOW!

The Celotex Corporation, Dept. T-57  
120 South La Salle Street, Chicago 3, Illinois

Without cost or obligation, please send me the Acousti-Celotex Sound Conditioning Survey Chart and your booklet, "Sound Conditioning for Schools and Colleges."

Name \_\_\_\_\_ Title \_\_\_\_\_

Institution \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



Glide,  
Kelly,  
Glide!



At last! — the answer to annoying "caster creep." Beds stay put when equipped with new White Nylon Glides — but slide easily for cleaning, and won't mark floors. Ideal for hardwood, tile, linoleum — light carpeting, too! Smart rustproof brass-plated fittings. A Harvard exclusive!



Harvard  
Bed Frames

...modern answer to  
mass housing needs



... Tracked Divan



... Swing-Bac Divan

Two of many other bed ideas shown in Harvard's free, complete HMI Planning Kit for hotels, motels, institutions. Write today. Free design service for special problems.

Gain valuable space — increase your income potential while you cut maintenance costs! Super-strong Harvard Frames eliminate old-style slats, side-rails, footboards — fit to any headboard, adjust to any size mattress and spring. Choice of Casters, White Nylon Glides or new Rock 'n' Rollers — the right mobility for any floor or floor covering, with less wear and easier cleaning.

### HARVARD FRAMES

Made Only by THE HARVARD MFG. CO.  
6201 Woodland Ave. • Cleveland 4, Ohio

## for your "Challenge of Change"

As seen in INSTITUTIONS Magazine

## see the Beauty of COLOR

In "CHF" Stools  
and Tables

GREEN  
(4 tones)  
IVORY  
MAHOGANY  
PINK  
GRAY  
(3 tones)  
BLUE  
(2 tones)  
RED  
BROWN  
(2 tones)  
TAN  
BRONZE  
CHARCOAL  
BLACK  
WHITE



HOTEL SEVILLE, MIAMI BEACH, FLA., Cafe Ole adds beauty of lifetime porcelain enamel colors with Chicago Hardware Foundry equipment.

**20 COLORS IN LIFETIME PORCELAIN ENAMEL—**Modern Interiors call for color. "CHF" supplies an array of colors and finishes found nowhere else. Colors to match or contrast with any interior... Finishes like chrome or bronze plate, anodized aluminum and the most distinctive of them all... *cast amber solid bronze*. Too, "CHF" gives you lifetime Cast Construction... one-piece stools and tables for rugged, dependable permanent service.

**WRITE TODAY FOR COLOR CATALOG SHOWING INSTALLATIONS** See the many award winning installations equipped with "CHF" Stools and Tables... ideas how "CHF" Color Line adds beauty to your installation. Ask for "Designs in Color."



CHF

**The CHICAGO HARDWARE FOUNDRY CO.**

"Dependable Since 1897"

3157 Commonwealth Avenue

NORTH CHICAGO, ILL.







## What's New . . .

### Pre-Assembled Bracket for Duplex Dispensers

A new all-purpose bracket, pre-assembled and ready for mounting, is now



offered for Duplex Straw Dispensers. The dispensers can be easily attached to vending machines, mobile food trucks and walls with the new bracket. Duplex Straw Dispensers dispense unwrapped straws in all sizes and have approval of health boards according to the report by the manufacturer.

The dispenser is easily mounted to the bracket without the use of tools. With the stainless steel bracket, the Duplex Dispenser can be loaded with straws without being touched by human hands. The new Duplex all-purpose bracket comes complete with hardware. Duplex Straw Dispenser Co., Dept. 24, 511 N. La Cienega Blvd., Los Angeles 48, Calif.

For more details circle #823 on mailing card.

### Traversing Vertical Blind in Fabric LouverDrape

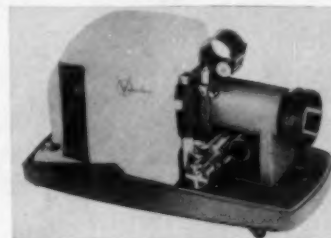
A new vertical blind which is made of fabric and draws like a drapery is offered in LouverDrape. It provides complete control of light, air and privacy and is manufactured in a variety of colorful DuPont fabrics from two to five inches wide. LouverDraperies close tightly, swivel open to any desired angle in a 180 degree radius for control of light and air, and draw completely open or closed.

The result of two years of research and engineering, LouverDraperies have tiny metal capsules which transport the blinds across the window on ball bearing wheels, keeping them under constant spring tension at top and bottom. The Cayton aluminum cornice channel provides a precise rotating control in any phase of the blinds drawn or open position and conceals and supports the simple working mechanism. Direction of the fabric louvers is controlled by a simple hand mechanism at the window. The blinds are fadeproof and have many uses in student unions, residence halls and the like for efficient control of light, air and privacy and for attractive, home-like appearance. Vertical Blinds Corp. of America, 1936 Pontius Ave., Los Angeles 25, Calif.

For more details circle #824 on mailing card.

### Viewlex Projector Has High Fidelity Sight

High fidelity in sight is claimed for the new Viewlex V-500 projector. A combination of 35 mm filmstrip and two by two slide projector, the new unit has 500-watt fan cooled illumination contained in a completely light-tight housing which eliminates light leakage. The special Viewlex optical system multiplies the illumination for a brilliant image. The vertical mounted fan behind the lamp draws cold air over the film plane first, then past the condensers against the lamp and out the side grills. The automatic take-up reel eliminates thread-



ing into the take-up attachment. The unit has an optical enlarging pointer to emphasize special areas. Viewlex, Inc., 35-01 Queens Boulevard, Long Island City 1, N.Y.

For more details circle #825 on mailing card.

(Continued on page 104)

...of the many teachers' desks\*  
only **One**  
stands out.....



*Designed to balance  
your school budget!*

It takes Haskell budget know-how to give you more value for every school dollar you invest in teachers' desks. More built-in quality, more comfort, more beauty including colors—all pays off! Happier teachers! Better teaching!

\*AS&U—See current edition of American School & University for details or write Haskell . . .

303 E. Carson St., Pittsburgh 19, Pa.

**HASKELL**  
OF PITTSBURGH

A GOOD NAME  
TO REMEMBER

## LOOKING FOR SOMEONE?

Someone to fill a vacancy in your staff—a Business Manager—Superintendent of Buildings and Grounds—Purchasing Agent—Director of Food Service and Dormitories?

Or maybe you are thinking about making a change.

If so, consider placing a "Classified Advertisement in the next issue of College and University Business.

It costs but 20c a word (minimum charge of \$4.00) to place your story before the administrative officers of colleges and universities in this country and Canada.

"Classified Advertisements" are working successfully for others—they can do the same for you.

**WRITE TO: Classified Advertisements**

**COLLEGE and UNIVERSITY BUSINESS**

919 N. MICHIGAN

CHICAGO 11, ILLINOIS





## The Sweetheart of Sigma Phi

Sigma for Style and Phi for Function. (For brevity's sake, we left off the last letter—Delta for Durability.) Fraternities are Greek to us, but we know our furniture. New Contract-Americana, for instance, is head of its class. The case pieces (6027 Desk and 6024 Chest) have drawer fronts, sides and tops of fabulous *Fiberesin*, the mar-resistant panelling that won't burn, can't stain.

Being solid plastic, beautifully wood-grained, there are no laminations to separate or become unsightly. Black tubular steel frames, smartly contemporary, are *Bonderized* for protection against rusting, chipping, cracking and peeling. Required Reading: Troy's special *Contract-Americana* folder and price list. Write for your copy today, or visit our contract showrooms.

**THE TROY SUNSHADE COMPANY**

*makers of fine outdoor furniture and umbrellas*

**TROY, OHIO**

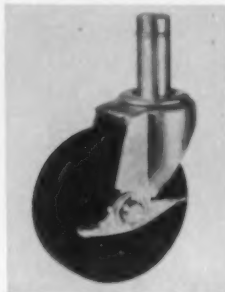
showrooms: ONE PARK AVENUE, NEW YORK • STUART-TROY, 31 FRONT ST., SAN FRANCISCO • 666 LAKE SHORE DRIVE, CHICAGO • FACTORY, TROY, OHIO



## What's New . . .

### Wheel Brake for Casters

Bassick has added a wing type wheel brake to its four and five inch heavy



Diamond Arrow Casters. The new brake enables the caster wheel to be locked securely or released by a touch of the toe. The new brake is practical in plate or stem construction on light work stands, portable ladders, conveyor sections and other mobile equipment. The Bassick Co., 3045 Fairfield Ave., Bridgeport 5, Conn.

For more details circle #826 on mailing card.

### Varying Surface Designs in Vicrtex Vinyl Fabrics

An illusion of varying surface heights and depths is created in the new Vicrtex designs recently introduced. An exclu-

sive lenticular process is used in embossing the surface of the vinyl fabric to reflect light, while the design of the pattern directs and shadows the reflections.

The Continental pattern gives the appearance of quilting. The Translusion design simulates the play of light in blocks of molten glass. The new fabrics are suggested as wall coverings or for upholstery by the designers. They are waterproof, weatherproof, fadeproof, flame, stain and soil resistant and are easily cleaned by wiping with a damp cloth. L. E. Carpenter & Co., Inc., Empire State Bldg., New York 1.

For more details circle #827 on mailing card.

### Interior Door Resists Abuse

The Weldwood Custom Royal Door for interior use is surfaced with Micarta to withstand the hard wear of institutional use. This sturdy plastic surface, which is not easily damaged or marred, requires no push-plates or kick-plates, is immune to stains and won't chip, splinter or corrode. It needs no waxing or staining and fingerprints, dust or grease are easily removed.

The Micarta surface is bonded to standard Weldwood Stay-Strate solid core, staved lumber core and hollow core doors in many styles. Custom Royal doors come in four Trugrain faces of

(Continued on page 106)

mahogany, oak, maple and walnut. U.S. Plywood Corp., 55 W. 44th St., New York 36.

For more details circle #828 on mailing card.

### Liquid Porcelain Cleaner in Applicator Bottle

An unbreakable polyethylene bottle with attachable sponge rubber applicator is now available with Brulin's Bowlette liquid compound for cleaning porcelain and vitreous ware. The new container is designed for easy handling. With the "Sponge-Spout" attached, Bowlette is dispensed by simply inverting the bottle over toilets and urinals and swabbing with the applicator. Waste is minimized and it is not necessary for the worker's hands to come in contact with the clean-



ing compound. Regular use of Bowlette is said to keep toilet fixtures clean and free from odor-causing bacteria. Brulin & Co., Inc., 2939 Columbia Ave., Indianapolis 7, Ind.

For more details circle #829 on mailing card.

## LOSE NO TIME IN CLIMBING ABOARD A **Locke** POWER LAWN MOWER FOR A DEMONSTRATION!



In minutes you'll see why LOCKE is America's most wanted power mower and trimmer! How, with the first cut, the LOCKE does a *complete job in one operation*...overhanging raised borders to make a clean cut...leaving no uncut rolled down grass...eliminating secondary hand trimming operations...thus, saving up to 50% of your time. Examine it closely! See how ruggedly built it is for long-life, and how the exclusive features afford unheard-of maneuverability, making it the *most versatile, efficient power mower and trimmer for your money.*

But don't take our word for it! See it, try it...buy it! You'll never switch power mower brands again.

#### 4 Basic Sizes:

- ★ 25", 30", 70", 75".
- ★ Single or Triplex Models. Riding Sulkies.
- ★ 70" and 75" available with reverse gear.
- ★ Briggs & Stratton Motors.

ASK YOUR DEALER FOR A  
DEMONSTRATION NOW, or write

### **Locke** POWER LAWN MOWERS

1321 Connecticut Avenue, Bridgeport 1, Conn.

A product of The Locke Steel Chain Co.



# THE "Monroe MASTER" SCHOOL FOLDING TABLE



## OUR GOLDEN ANNIVERSARY

The Monroe Company is entering its 50th year of service to customers and patrons. In that time we have become the world's largest manufacturers of folding banquet tables, selling direct to schools, churches and other institutions.

### MODEL 3WM • WOOD FRAME • MASONITE TOP • AUTOMATIC LOCK

The newest innovation in the school table field, from the 50-year old Monroe organization, leaders in folding tables and other fine furniture. The 3WM is unsurpassed in construction and design. It features:— 1. Extruded plastic flush T moulding with bronze finish. 2. Top is bonded to plywood frame backing. 3. Wood frame or apron machine moulded, preserving the natural beauty of the wood. (Also available in Model S, with steel apron.) 4. New Monroe automatic lock on the pedestal assembly. Offered in 8 sizes and four top finishes, Masonite (shown), also Ornacel Blon-D, Formica and Resilyte.



### MONROE CLASSROOM CHAIR 578

9 Graded Heights, from 10" to 18". Ideal for classes, cafeterias, church schools. Streamlined tubular steel frame, baked-on light brown enamel, contoured back and seat. Also steel folding chairs, several styles.

### MONROE OPEN FRONT DESK 996

11 Graded Heights, from 20" to 30". Desk top light wood grain, high quality plastic. Light weight but solidly built tubular steel frame, baked-on light brown enamel. Book box sides and bottom made of heavy sheet steel. Also Monroe chair desks and folding tablet arm chairs.



### MONROE STEEL FOLDING CHAIRS

Attractive range of styles, sizes and prices. Excel in comfort, easy handling, durability.



Table Truck T58

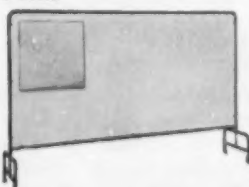
### MONROE MOVABLE PARTITIONS

Change idle space to useful areas. Use the space for the needs you have. Monroe Partitions sturdily built and good looking. Smooth Masonite panels, durable tubular steel frames, swivel glides or casters. Chalk board surface or bulletin board (both available). These partitions are a recent Monroe introduction which have had immediate and enthusiastic acceptance by schools and other institutions everywhere.



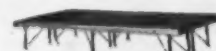
### MONROE TRUCKS FOR TABLES AND CHAIRS

Store and handle Monroe Tables and Chairs easily, quickly. Any room may be set up or cleared in a jiffy with our Monroe manufactured trucks. Several models and sizes.



### Monroe Folding Risers & Platforms

Most modern, practical, safe and economical units for staging orchestras, choral groups, bands, plays, commencements, etc.



### MONROE DELUXE FOLDING PEDESTAL TABLE 3M

Above picture identifies the famous Monroe Folding Pedestal Banquet Table which is known from coast to coast and in foreign countries. This is size 30x96 inches, with Masonite top. Schools and colleges, as well as churches, societies, and all organizations prize their Monroe No. 3 Tables. 7 other sizes, in three colorful top materials. Also utility folding tables including round, square, etc.

### MONROE ROUND "ROLL-AWAY" FOLDING TABLE 48R

For heavy duty with ease of handling. The Monroe 48R is 48" in diameter, also comes 54", 60" and 72" and customer built for large banquet settings. Positive locking. Our new round table segments afford almost unlimited capacity and attractive arrangements.



### MONROE ADJUSTABLE HEIGHT FOLDING PEDESTAL TABLE 3DT

The folding table that adjusts to any height from 20 to 30 inches, from kindergartners to adults. No tools required. Will not slip or collapse. Also comes with teacher's recess at one side for intimate class supervision.



**NEW**  
**Monroe**  
**FOLDING TABLE**  
**CATALOG**

### DIRECT FACTORY PRICES AND DISCOUNTS

The Monroe Company has long been recognized for its leadership in folding tables, now in use by over 42,000 schools, colleges, churches, clubs, lodges and other institutions. In addition it offers a complete line of folding steel chairs, trucks for tables and chairs, school chairs and desks, risers and platforms, movable partitions, etc. Our complete catalog is a guide to equipment purchasing, with factory prices and quantity discounts to all organizations. Write for it today.

THE MONROE COMPANY • 77 CHURCH ST., COLFAX, IOWA



## Literature and Services

• The complete line of Wayne rolling gymstands is described in **Catalog R-57** prepared by Wayne Iron Works, 147 N. Pembroke Ave., Wayne, Pa. The booklet shows typical installations and includes complete specifications, planning aids, typical floor plans, dimension tables and a section on available accessories.

For more details circle #830 on mailing card.

• **"This Is Glass"** is the title of an informative booklet on the development and present day uses of glass. The illustrated booklet answers such questions as what is glass, how is glass made, how is glass used and gives historical highlights. It is available from Corning Glass Works, Corning, N.Y.

For more details circle #831 on mailing card.

• **"Dial Springtime Anytime"** is the title of a new series of product folders describing air conditioners for commercial application, manufactured by Airtemp Div., Chrysler Corp., Dept. 620, 1600 Webster St., Dayton 1, Ohio. Form No. LL-241 describes water-cooled packaged air conditioners and Form No. LL-243, waterless air conditioning units.

For more details circle #832 on mailing card.

• A new **Anscochrome Film Exposure Guide** is available from Ansco, Binghamton, N.Y. The pocket-size guide contains information for exposing high-speed Anscochrome color transparency film under all outdoor and indoor lighting conditions and also includes a filter selection chart.

For more details circle #833 on mailing card.

• **"Vampco Tru-Seal Aluminum Awning Windows"** for institutional and commercial buildings are described in **AIA File No. 16-E**. Specifications, standard window sizes and installation details on the Series 55 window are included, as well as information and diagrams on other series windows manufactured by Valley Metal Products Co., Plainwell, Mich.

For more details circle #834 on mailing card.

• A new booklet entitled **"Integrated Data Processing: A Factual Analysis"** explains how institutions of any size can select the correct integrated data processing systems to fill their needs. The 24-page booklet was prepared by Ditto, Inc., 6800 N. McCormick Rd., Chicago 45, and discusses one-writing systems, punched cards, magnetic and punched tapes, telegraphic transmission and electronic computers.

For more details circle #835 on mailing card.

• **Bulletin No. 141** on the Barnstead MF Submicron Filter is now available from Barnstead Still & Demineralizer Co., 219 Lanesville Terrace, Jamaica Plain, Boston 31, Mass. Full information on this new development in pure water filtration is presented in the folder.

For more details circle #836 on mailing card.

• How environment influences learning is the subject of a booklet entitled **"More Learning Per School Dollar"** available from John J. Nesbitt, Inc., State Rd. and Rhawn St., Philadelphia 36, Pa. Printed in full color, the 24-page brochure presents the factors in the classroom which require continuous control of heating, ventilation and cooling and how a unit ventilator controls these factors. Information on Nesbitt heating and ventilating equipment is also included.

For more details circle #837 on mailing card.

• How to strip, seal and maintain gymnasium floors is the subject of a **Gym Floor Booklet** prepared by J. I. Holcomb Mfg. Co., Inc., Barth & Palmer Sts., Indianapolis 7, Ind. The booklet includes diagrams and covers work flow information, line and seal removal, application of fresh seals and finishes, and includes regular maintenance tips.

For more details circle #838 on mailing card.

• Which magnetic tape is the right one for a specific recording job is explained in a new folder prepared by Minnesota Mining & Mfg. Co., 900 Bush St., St. Paul 6, Minn. The pocket-size booklet describes the characteristics of six different types of "Scotch" brand magnetic recording tapes and how each is used.

For more details circle #839 on mailing card.

• The 1957 **Educational Catalog** of psychological tests, reading development materials and guidance publications and services is now available from Science Research Associates, 57 W. Grand Ave., Chicago 10. The catalog features a complete range of publications and services for elementary grades, high schools and colleges.

For more details circle #840 on mailing card.

• **"Embezzlement Controls for Business Enterprises"** is the title of a new booklet available from Fidelity and Deposit Co., 2355 Fidelity Bldg., Baltimore 3, Md. Written by Lester A. Pratt, C.P.A., nationally-recognized authority on fraud prevention, the booklet describes practical methods of combating embezzlements and contains a check list for determining adequacy of embezzlement controls.

For more details circle #841 on mailing card.

• **Composite Catalog No. 203A** lists all standard pan and tray sizes, along with their actual dimensions, in the complete Cres-Cor line of aluminum food service equipment. The two types of side-wall construction used by Cres-Cor, corrugated and angle-ledge, are graphically illustrated. Fifty-four typical units of the complete line of 260 models are illustrated and all sizes of cabinets, racks, tray carts and vertical carts are pictured. Copies of the catalog are available from Crescent Metal Products, Inc., Customer Service Dept., 18901 St. Clair Ave., Cleveland 10, Ohio.

For more details circle #842 on mailing card.

• The 1957 **Catalog on Sanymetal Toilet Compartments and Shower Stalls** has been published by The Sanymetal Products Co., 1693 Urbana Rd., Cleveland 12, Ohio. **Catalog 94** includes a set of color samples, simple mounting diagrams, standard specifications and dimensions, and suggested floor plans.

For more details circle #843 on mailing card.

• National-U.S. Radiator Corp., Heating & Air Conditioning Div., Johnstown, Pa., offers two new catalogs describing new scotch-type steel boilers for oil or gas firing. **Catalog No. 819** details wet-back boilers with forced draft burners and **No. 820** describes natural draft type boilers.

For more details circle #844 on mailing card.

• **"1957 Geyser Wood Bar Windows"** are discussed in a new eight-page bulletin published by E. K. Geyser Co., 915 Mc Ardle Roadway, Pittsburgh 3, Pa. Complete size data and panel diagrams on the windows for either unit openings or continuous fenestration, specifications and standard details are included in the leaflet which carries illustrations of installations.

For more details circle #845 on mailing card.

• How congested areas can use power sweeping is told in a new booklet entitled **"Can we use Mechanized Sweeping Profitably?"** Issued by G. H. Tennant Co., 2526 N. 2nd St., Minneapolis 11, Minn., the booklet discusses aisle widths, dust control, possible cost savings and includes a check-list to pre-determine the advantages of a sweeper's usefulness.

For more details circle #846 on mailing card.

## Suppliers' News

The Brunswick-Balke-Collender Co., 623 S. Wabash Ave., Chicago 5, manufacturer of school furniture and bleachers, and The Mengel Company, Louisville, Ky, announce a two-company agreement for the manufacture and marketing of closet wall units for school and institutional use. The closet walls will be manufactured by Mengel at its Winston-Salem, North Carolina factory and will be marketed by Brunswick under the trade name of Brunswick-Mengel. The closets and closet fronts are pre-fabricated knocked down units which eliminate the need for conventional walls in mass housing units such as school and college dormitories, and they can also be used in the classroom as room dividers for flexible construction.

Electric-Aire Engineering Corp., manufacturer of quality electric hand and hair dryers, announces consolidation of its sales and executive offices in a new location at 3138 W. Chicago Ave., Chicago 22. The move was made to enable the firm to provide more prompt and efficient service as well as to obtain more space for expanding production.







# PRODUCT INFORMATION

## Index to Products Advertised

	Page and Key
Adams & Westlake Company	
Aluminum Windows	14
Ajete Equipment Company	
Chairs and Stools	68a
All-Steel Equipment Inc.	
School Furniture	101
American Air Filter Co., Inc.	
Unit Ventilator Products	10, 19
American City Bureau	
Fund Raising	93
American Seating Company	
School Seating	94c
Barreled Sunlight Paint Company	
Paint	16
Bay West Paper Company	
Paper Towels and Dispenser	88
Blickman, Inc., S.	
Laboratory Equipment	2
Bolta Products Division	
Trays	Cover 2
Brunswick-Balke-Collender Co.	
School Furniture	following page 16
Buckner Mfg. Company, Inc.	
Coupling Valves	92c
Burroughs Corporation	
Accounting Machine	20
Carrom Industries, Inc.	
Dormitory Furniture	Cover 4
Celotex Corporation	
Acoustical Material	99
Chicago Hardware Foundry Company	
Stools & Tables	100b
Clann Mfg. Company	
School Furniture	21
Cumerford, Inc.	
Fund Raising	22
Davenport & Son, Inc., A. C.	
Bulletin Boards	94d
Davis Sound	
Lectern	96c
Day-Write Lighting, Inc.	
School Lighting	8
Daysrom Nuclear Corp.	
Training Center	9
Devos & Reynolds Co., Inc.	
Paint	91
Dodge Corporation, F. W.	
School Planning Handbook	12
Englander Company	
Dormitory Bed & Mattress	17

	Page and Key
Finnell System, Inc.	
Floor Maintenance	5
Fort Howard Paper Company	
Paper Towels	95
Hampden Specialty Products, Inc.	
School Furniture	96d
Harvard Manufacturing Company	
Bed Frames	100a
Haskell, Inc.	
School Furniture	102
Heyer Corporation	
Duplicator	15
Hillyard Chemical Company	
Floor Maintenance	following page 66
Hobart Mfg. Company	
Kitchen Machines	Cover 3
Huntington Chair Corporation	
Institutional Furniture	57
Huntington Laboratories, Inc.	
Floor Maintenance	97
International Business Machines Corporation	
Data Processing	83
Iron Fireman Mfg. Company	
Temperature Control	67
Johnson Service Company	
Temperature Control	73
Johnson & Son, Inc., S. C.	
Floor Maintenance	23
Kewaunee Mfg. Company	
Laboratory Equipment	64
Locke Steel Chain Co.	
Lawn Mower	104
Mandel Brothers	
Institutional Furniture	96d
Medart Products, Inc., Fred	
Gym Seats	7
Michaels Art Bronze Company, Inc.	
Exhibit Cases	38
Mississippi Glass Company	
Diffusing Glass	82
Mitchell Camera Corporation	
Camera	13
Monroe Calculating Machine Co., Inc.	
Calculator	10
Monroe Company	
School Furniture	105
National Biscuit Company	
Institutional Food	59
Owens Illinois Libbey Glass	
Glassware	89

	Page and Key
Peterson & Company, Leonard	
Homemaking Classroom Equipment	68c
Radio Corporation of America	
TV Teaching System	75
Rastetter & Sons Company, Louis	
School Seating	79
Remington Rand Inc.	
Record System	87
Royal Metal Mfg. Company	
School Furniture	71
Sexton & Company, John	
Institutional Food	53
Shwyder Brothers, Inc.	
Institutional Seating	69
Simmons Company	
Dormitory Furniture	77
Slater System, Inc.	
Food Service Management	24
Sloan Valve Company	
Flush Valves	1
Smithcraft Lighting Division	
School Lighting	66
S.U.A. Incorporated	
Space Utilization Consultants	81
Spencer Turbine Company	
Floor Maintenance	70
Thonet Industries, Inc.	
Dormitory Furniture	90
Tinlon Company of America, Inc.	
Rug & Carpet Cleaner	92d
Toledo Metal Furniture Company	
School Furniture	74
Troy Sunshade Company	
Dormitory Furniture	103
Tuition Plan	
Monthly Deferred Payment Plan	72
Universal Bleacher Company	
Bleachers	63
Vacuum Can Company	
Insulated Food Carrier	98c
Virco Manufacturing Company	
School Furniture	11
Vogel-Peterson Company	
Coat & Hat Racks	78
Water Master Company	
Toilet Plunger	76
Weis Mfg. Company, Inc., Henry	
Toilet Compartments	61
West Disinfecting Company	
Maintenance Products	65



# TO REQUEST PRODUCT INFORMATION

## FOLD THIS FLAP OUT

## AND USE THESE CARDS

(We pay the postage)



The two cards below are detachable and are addressed to us. With this flap folded out you can turn through the magazine for the items on which you want further information.



When, in either an advertisement or "What's New" you locate the product, turn to the index to advertisements (left) or to the index of "What's New" items on the following page, where you will find the key number for the item. Items advertised are listed alphabetically by manufacturer. "What's New" items are in Key Number order. Circle the corresponding key number on the card below for each item in which you are interested. The second card is for the use of someone else who may also want product data.



Detach and mail — no postage required.



May, 1957

Please ask the manufacturers, indicated by the numbers I have circled, to send further literature and information provided there is no charge or obligation.

WHAT'S NEW						ADVERTISEMENTS									
782	783	784	785	786	787	1	2	3	4	5	6	7	8	9	10
788	789	790	791	792	793	11	12	13	14	15	16	17	18	19	fol. 16
794	795	796	797	798	799	17	18, 19	20	21	22	23	24	25	26	27
800	801	802	803	804	805	28	29	30	31	32	33	34	35	36	37
806	807	808	809	810	811	38	39	40	41	42	43	44	45	46	47
812	813	814	815	816	817	48	49	50	51	52	53	54	55	56	57
818	819	820	821	822	823	58	59	60	61	62	63	64	65	66	67
824	825	826	827	828	829	68	69	70	71	72	73	74	75	76	77
830	831	832	833	834	835	78	79	80	81	82	83	84	85	86	87
836	837	838	839	840	841	88	89	90	91	92	93	94	95	96	97
842	843	844	845	846	847	98	99	100	101	102	103	104	105	106	107
						108	109	110	111	112	113	114	115	116	117

NAME \_\_\_\_\_ TITLE \_\_\_\_\_

INSTITUTION \_\_\_\_\_

ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

May, 1957

Please ask the manufacturers, indicated by the numbers I have circled, to send further literature and information provided there is no charge or obligation.

WHAT'S NEW						ADVERTISEMENTS									
782	783	784	785	786	787	1	2	3	4	5	6	7	8	9	10
788	789	790	791	792	793	11	12	13	14	15	16	17	18	19	fol. 16
794	795	796	797	798	799	17	18, 19	20	21	22	23	24	25	26	27
800	801	802	803	804	805	28	29	30	31	32	33	34	35	36	37
806	807	808	809	810	811	38	39	40	41	42	43	44	45	46	47
812	813	814	815	816	817	48	49	50	51	52	53	54	55	56	57
818	819	820	821	822	823	58	59	60	61	62	63	64	65	66	67
824	825	826	827	828	829	68	69	70	71	72	73	74	75	76	77
830	831	832	833	834	835	78	79	80	81	82	83	84	85	86	87
836	837	838	839	840	841	88	89	90	91	92	93	94	95	96	97
842	843	844	845	846	847	98	99	100	101	102	103	104	105	106	107
						108	109	110	111	112	113	114	115	116	117

NAME \_\_\_\_\_ TITLE \_\_\_\_\_

INSTITUTION \_\_\_\_\_

ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_



# TO REQUEST PRODUCT INFORMATION FOLD THIS FLAP OUT AND USE THESE CARDS

(We pay the postage)



The two cards below are detachable and are addressed to us. With this flap folded out you can turn through the magazine for the items on which you want further information.



When, in either an advertisement or "What's New" you locate the product, turn to the index to advertisements on the preceding page or to the index of "What's New" items (right) where you will find the key number for the item. Items advertised are listed alphabetically by manufacturer. "What's New" items are in Key Number order. Circle the corresponding key number on the card below for each item in which you are interested. The second card is for the use of someone else who may also want product data.



Detach and mail — no postage required.



FIRST CLASS  
CHICAGO, ILL.  
PERMIT NO. 136  
SEC. 34.9 P. L. & R.

BUSINESS REPLY CARD  
No Postage Stamp Necessary if mailed in the United States

3 CENT POSTAGE WILL BE PAID BY

COLLEGE AND UNIVERSITY BUSINESS

919 NORTH MICHIGAN AVENUE

CHICAGO 11, ILLINOIS

FIRST CLASS  
CHICAGO, ILL.  
PERMIT NO. 136  
SEC. 34.9 P. L. & R.

BUSINESS REPLY CARD  
No Postage Stamp Necessary if mailed in the United States

3 CENT POSTAGE WILL BE PAID BY

COLLEGE AND UNIVERSITY BUSINESS

919 NORTH MICHIGAN AVENUE

CHICAGO 11, ILLINOIS

## Key

- 782 Built-In Wardrobe  
Royal Metal M
- 783 MicroMist Oil Bu  
Iron Fireman M
- 784 Metal Map Hand  
Geerpres Wri
- 785 "Executive" Fluor  
Smithcraft Ligh
- 786 Ready Roll of Sa  
The Dew Chen
- 787 Herman Nelson t  
American Air
- 788 Classroom Chair  
Virco Mfg. Co
- 789 Wall Tables of T  
Haldeman-Ho
- 790 Power Mower  
Porter-Cable
- 791 Westwax  
West Disinfect
- 792 Sno-Cone  
Manley Inc.
- 793 Kordmulch  
Kordite Co.
- 794 Transtaller Meg  
Pye Corp. of
- 795 Moving Base Sp  
Adamsen Spr
- 796 Baseball Backsto  
Jamison Mfg.
- 797 Electric Desk  
Desks of Ame
- 798 Electric Plaster C  
Wodack Elec
- 799 Paper Dispenser  
American Pho  
Co.
- 800 Table and Bench  
Howe Folding
- 801 84LA Classroom  
J & J Tool an
- 802 Desk-Chair  
Irwin Seating
- 803 Wash Sink Faucet  
Y & S Brass &



# Index to "What's New"

Pages 83-106

Key	Key
ilt-In Wardrobe Unit Royal Metal Mfg. Co.	825 Projector Viewlex, Inc.
icroMist Oil Burner Iron Fireman Mfg. Co.	826 Casters with Wheel Brake The Bassick Co.
etal Mop Handles Geerpres Wringer, Inc.	827 Virectex Fabrics L. E. Carpenter & Co., Inc.
Executive" Fluorescent Unit Smithcraft Lighting	828 Weldwood Door U. S. Plywood Corp.
ady Roll of Saran Wrap The Dow Chemical Co.	829 Bowlette with Applicator Burlin & Co., Inc.
erman Nelson Univent American Air Filter Co.	830 Catalog Wayne Iron Works
assroom Chair Virco Mfg. Corp.	831 "This Is Glass" Corning Glass Works
all Tables of Tomorrow Haldeman-Homme Mfg. Co.	832 Forms Airtemp Div., Chrysler Corp.
ower Mower Parter-Cable	833 Film Exposure Guide Anscochrome Film Exposure Guide, Ansco
ashwax West Disinfecting Co.	834 Folder Valley Metal Products Co.
no-Cone Manley Inc.	835 Booklet Ditto, Inc.
ordmulch Kordite Co.	836 Bulletin Barnstead Still & Demineralizer Co.
ranshailer Megaphone Pye Corp. of America	837 Booklet John J. Nesbitt, Inc.
oving Base Sprinkler Adamsen Sprinkler Co.	838 Booklet J. I. Holcomb Mfg. Co., Inc.
aseball Backstop Jamison Mfg. Co.	839 Folder Minnesota Mining & Mfg. Co.
lectric Desk Desks of America Inc.	840 Educational Catalog Science Research Associates
lectric Plaster Groover Wodack Electric Tool Corp.	841 "Embezzlement Controls" Fidelity & Deposit Co.
aper Dispenser American Photocopy Equipment Co.	842 Composite Catalog Crescent Metal Products, Inc.
able and Bench Unit Hewe Folding Furniture, Inc.	843 Catalog on Toilet Compartments Sanymetal Products Co.
LA Classroom Desks J & J Tool and Machine Co.	844 Catalogs National-U. S. Radiator Corp.
Desk-Chair Irwin Seating Co.	845 "Wood Bar Windows" E. K. Geyser Co.
Wash Sink Faucet T & S Brass & Bronze Works, Inc.	846 Booklet G. H. Tennant Co.
804 Locker Rack Lyon Metal Products, Inc.	
805 Heater Norman Products Co.	
806 Sponge Rubber Tennis Bats The Harvard Table Tennis Co.	
807 Floor Machine S. C. Lawler Co.	
808 PowerRide Mower Jarl Products, Inc.	
809 Hand and Hair Dryer The Chicago Hardware Foundry Co.	
810 Vitrolux Libbey-Owens-Ford Glass Co.	
811 Sanitary Napkin American Hygienic Corp.	
812 Floor Machine Huntington Laboratories	
813 Vina-Lux Flooring Uvalde Rock Asphalt Co.	
814 Koroseal Matting B. F. Goodrich Industrial Products Co.	
815 Optivox Easel Advance Furnace Co.	
816 Control Panels Acme Visible Records, Inc.	
817 Anchor Hinge McKinney Mfg. Co.	
818 Riller Rake Roseman Tractor Equipment Co.	
819 Door Pittsburgh Plate Glass Co.	
820 Divoklar The Diversey Corp.	
821 Centri-Mite Filter Swingquip, Inc.	
822 Portable Lectern Detroit Lectern Co., Inc.	
823 All-Purpose Bracket Duplex Straw Dispenser Co.	
824 Traversing Vertical Blind Vertical Blinds Corp. of America	







They never made  
a peeling knife

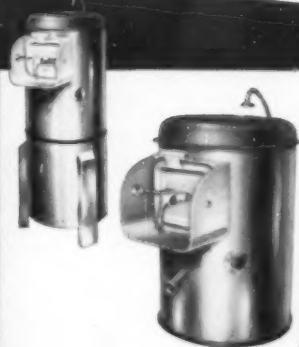


(or another peeler)

that does a job like this...



**Model 6115 Stainless Steel Portable Peeler.** Finish — satin-finished stainless steel body, gray plastic cover, cast aluminum door, door handle and chute. Capacity — 15 to 20 lbs. in 1 to 3 minutes. Stainless steel cabinet base and trap accessory converts unit to floor machine.



You get better performance in *minutes* from a Hobart Peeler than you get from *hours* of hand-work. And you get savings in root vegetables themselves, savings in cleaning time and a standard of sanitation unequaled in the peeler field.

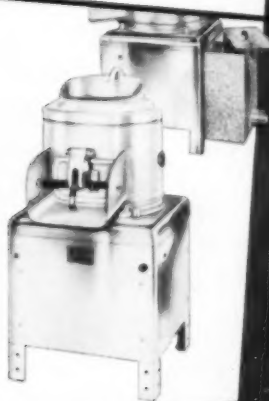
The secret is the exclusive Hobart designed abrasive disc, second in hardness only to diamonds. Plus the Hobart co-ordinated ribbed hopper sides *without side abrasives*.

This gives you *controlled* peeling, with minimum waste of vitamin rich areas—all shapes and sizes peeled only skin deep, uniformly, with no flats or bruising—and fast.

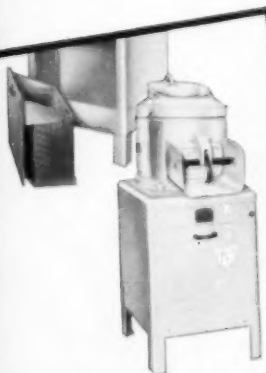
With ribbed sides and easily removable disc, cleaning is a matter of seconds. And with special Hobart designed  $\frac{1}{3}$  and  $\frac{1}{2}$  H.P. motors, power is ample and sure.

See Hobart for Peelers—and for *all* your Food, Kitchen and Dishwashing machines . . .  
The Hobart Manufacturing Company, Troy, Ohio.

**Model 6230 Heavy Duty Cabinet Type—Peel Trap Optional Extra.** Capacity—30-33 lbs. Finish—Hobart Standard Gray enamel; stainless steel optional, extra. Cabinet models index to any of four 90° positions in relation to peel trap. Fits any installation!



**Model 6330 with Self-Hinging, Perforated Built-In Peel Trap.** Capacity—30-33 lbs. Finish—same as Model 6230. If you peel in volume and want the finest, it's for you!



Trademark of Quality  for over 60 years

**Hobart**  
machines

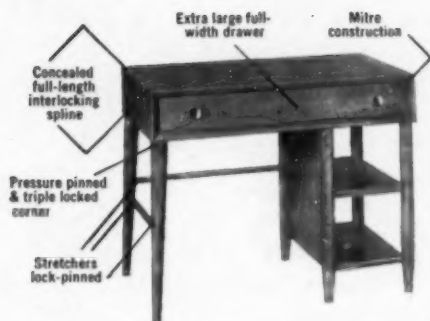
The World's Largest Manufacturer of Food,  
Kitchen and Dishwashing Machines

DISHWASHERS • DISH SCRAPPERS • GLASSWASHERS • DISPOSERS  
PEELERS • MIXERS • FOOD CUTTERS • MEAT CHOPPERS • SCALES  
MEAT SAWS • TENDERIZERS • FOOD SLICERS • COFFEE MILLS



## Why wood furniture?

Only wood furniture has warm beauty combined with lasting durability. Wood is pleasant to touch, rich in appearance, easy to keep clean and polished. Wood takes heavy punishment. It is difficult to mar, scratch or dent and will outlast other materials many times over. Wood is beautiful. Wood is economical.



Typical construction features of Carrom wood furniture



## why **C**arrom wood furniture?



Carrom Furniture is made of beautifully grained Select Northern Hard Birch, the finest and strongest of woods. It is constructed in a manner that assures long, trouble-free service, even though subjected to extremely hard usage. And Carrom Furniture is finished with Enduro, a strong, hard, durable finish, which not only protects against scratches, burns and stains but also brings out warmth and beauty, adding new distinctive lustre. In Carrom you find the styling you want—traditional or modern; standard or special. Make your choice of furniture Carrom Wood Furniture. Write today for our complete, illustrated catalog.

**CARROM INDUSTRIES, INC.**  
Ludington, Michigan

Illustrated are a few of the many Carrom wood furniture designs.